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THE HEMATOLOGIC EFFECTS OF NITROGEN MUSTARDS*

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1. Introduction

Reports by Jacobson,[1] Lushbaugh[2] and others[3,4] on the use of a nitrogen mustard [methyl *bis*(β-chloroethyl) amine hydrochloride] in the treatment of various neoplastic diseases, such as the leukemias, polycythemia, Hodgkin's disease and the like, have pointed out the similarities in the biologic action of X irradiation and nitrogen mustard. In the past several years extensive studies on these agents have been made in our laboratories. This paper constitutes a preliminary report of these investigations.

2. Materials and Methods

Swift snuffle-free rabbits of uniform age and weight (2.5 to 3 kilograms) were used exclusively. In a preliminary experiment the nitrogen mustard was given intracardially to the rabbits in doses of 1.5 to 4 mg/kg of body weight; in a more recent experiment intravenous injections of the drug were given. It was found that a dose of 3.0 mg/kg was approximately the $LD_{50}/30$ day dose for rabbits. This means that 3 mg/kg was sufficient to kill 50 per cent of the rabbits within 30 days, and produced an effect on the bone marrow and hematologic values of the peripheral blood comparable to a single dose of 800 roentgens whole-body X radiation. In our studies 800 r has been found to be the $LD_{50}/30$ day dose for rabbits. The studies reported in this paper are confined to the 3 mg/kg dose.

The mustard was administered into the heart or marginal ear vein of the rabbit in a concentration of 1 mg of drug to 1 cc of

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normal saline, immediately after the drug had been dissolved. This concentration produced no sloughing of the tissues at the site of injection.

3. Hematologic Studies

The studies on the peripheral blood taken from the ear vein of the rabbit, using standard techniques, included the following:

Hemoglobin in grams per 100 cc
Erythrocytes per cu mm
Reticulocytes in per cent of erythrocytes
Leucocytes per cu mm
Differential leucocytes

Studies on blood obtained by cardiocentesis (venous or arterial) blood included:

Platelet counts
Whole-blood clotting time
Prothrombin determinations
Heparin tolerance test
Fibrinogen and calcium determinations

3.1 *Platelets:* Platelet counts were made by drawing blood to the 0.5 mark in a white blood diluting pipette and diluting to the 11 mark with a 1.8 per cent solution of freshly prepared sodium citrate. The pipette was gently shaken for 1 minute after which the entire content of the pipette was allowed to flow into a small Lusteroid, conical-shaped tube (10 x 60 mm).* The tube was set aside at room temperature until sedimentation of the red cells was complete. The platelets were then counted on the supernatant plasma whenever time permitted (within 24 hours).

3.2 *Whole-blood clotting time:* The whole-blood clotting time was determined according to a modification of the Lee-White method. One-half cc amounts of whole blood were measured into 5 or 6 small test tubes (10 x 75 mm) and 1 cc amounts were pipetted into 3 or 4 larger test tubes (13 x 100 mm). The larger tubes were not examined until clotting had been established in the small tubes. The time which elapsed between the first appearance of the blood in the syringe and the clotting of 2 consecutive tubes which had not previously been manipulated was considered to be the whole-blood clotting time, and the blood was considered to be clotted when it remained firm upon gentle inversion of the tube.

3.3 *Prothrombin determinations:* Prothrombin determinations were made according to the Link-Shapiro modification of Quick's method, using commercial Maltine thromboplastin. Both diluted and undiluted blood plasma were used.

3.4 *Heparin tolerance test:* Modifications of the heparin tolerance

*Obtained from the Lusteroid Co., South Orange, New Jersey.

technique developed by Allen and his coworkers[5] were necessary to avoid the repeated withdrawal of large amounts of blood from rabbits. Protamine sulfate, which was weighed on an analytical balance, was dissolved in physiological saline in a concentration of 1 mg of protamine to 2 cc saline. This solution, prepared fresh every other day, was titrated into a series of 10 small test tubes (10 x 75 mm) in dilutions varying from 0.01 to 0.07 cc. In performing the test, 3.5 cc of blood obtained from the heart was added to a tube containing exactly 0.02 cc of liquid heparin and gently inverted 20 times. Immediately thereafter 0.25 cc of this heparinized blood was added to the tubes containing the graduated amounts of protamine sulfate. Each tube was then gently shaken and set aside at room temperature. At the end of 1, 3 and 24 hours readings were made to determine the minimum amount of protamine sulfate necessary to cause a clot to form in the heparinized blood. Normal rabbit blood required 17.5 to 22.5 gamma of protamine to bind the amount of heparin used in these experiments, thus clotting occurred in the 4th, 5th, or 6th tube.

4. General Procedure

Approximately 10 cc of blood was withdrawn from the heart of the rabbit using a dry 18-gauge needle and a dry 10-cc syringe. Three and one-half cc of this blood was immediately transferred to a graduated centrifuge tube containing 0.02 cc of liquid heparin for the heparin tolerance test; 0.9 cc of blood was transferred to a tube containing 0.1 cc of sodium oxalate for the prothrombin determination. The remaining blood was pipetted in 0.5 and 1 cc amounts, respectively, into test tubes for the clotting time determinations.

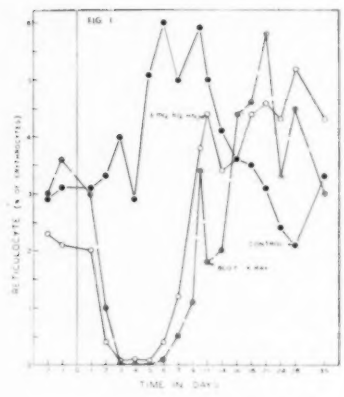
Only one attempt was made to obtain blood from the heart of the rabbit. When this was not successful no further attempt was made for several hours.

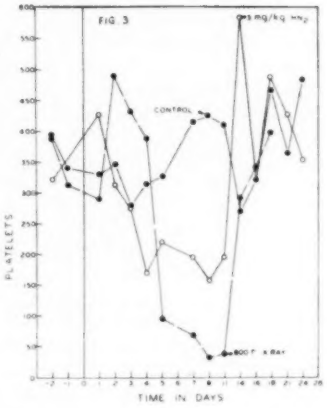
5. Histologic Studies

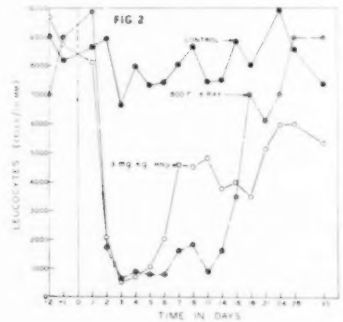
Histologic studies were made in order to study the blood-forming tissue for the proper correlation with the peripheral blood on control animals and animals that received nitrogen mustard. Rabbits were sacrificed at appropriate hours, the tissues fixed in Zenker-formalin, washed in water, and dehydrated in alcohol, before being mounted for celloidin sections. These studies will be reported in detail at a later date.

6. Results

A reduction of *circa* 15 per cent in the erythrocyte and hemoglobin values occurred by the 11th day in the animals that re-







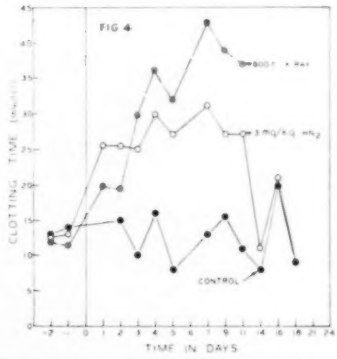


Figure 1. Comparative effect of 800 r whole-body X irradiation and 3 mg/kg nitrogen mustard on the circulating reticulocytes of rabbits.

Figure 2. Comparative effect of 800 r whole-body X radiation and 3 mg/kg of nitrogen mustard on the total number of leucocytes per cu mm of rabbits.

Figure 3. Comparative effect of 800 r whole-body X irradiation and 3 mg/kg nitrogen mustard on the platelets per cu mm of rabbits.

Figure 4. Comparative effect of 800 r whole-body X irradiation and 3 mg/kg of nitrogen mustard on the whole blood clotting time (Lee-White) of rabbits.

ceived nitrogen mustard. The anemia was transient and normal values were obtained by the 22nd day.

The reticulocytes were reduced maximally by 3 days in the mustard-treated rabbits. Recovery was rapid and complete by 11 days. Figure 1 shows the comparable effects of nitrogen mustard or X irradiation on the reticulocytes in per cent of erythrocytes.

The leucocytes per cu mm were maximally reduced by 3 days

following nitrogen-mustard therapy. Partial recovery occurred by 7 days, but complete recovery had not occurred by 35 days, the length of the observation period. The comparable effects on the total number of leucocytes per cu mm of the normal rabbits, of rabbits after nitrogen-mustard administration and of rabbits exposed to 800 r whole-body X radiation are shown in Figure 2. Recovery from the irradiation effect, although slower, was complete by 28 days.

The heterophils* were maximally reduced in the mustard-treated rabbits by 3 days, with complete recovery by 16 days. The lymphocyte values per cu mm followed a pattern similar to that of the total number of leucocytes except that maximum reduction had occurred by the 2nd day. Recovery paralleled the leucocyte curve closely, by 35 days complete recovery had not occurred.

Figure 3 represents the comparable effects on the blood platelets of X-irradiated and mustard-treated animals. The platelet values were decreased by the 4th day and remained low for *circa* 7 days. After an abortive rise on the 14th day platelet regeneration was rapid.

A prolonged clotting time of the whole blood ocurred within 24 hours after the mustard was administered, reached a peak sometimes as high as 50 to 60 minutes in individual animals by the 4th to 7th day, remained high for about 1 week, and then returned to normal values in the surviving animals. The mean average clotting times of control rabbits, of rabbits after X irradiation, and of rabbits after mustard administration are shown in Figure 4.

The heparin tolerance as a rule paralleled the effects observed on the clotting time. As the clotting time became prolonged, a greater concentration of protamine sulfate was necessary to form a clot and, occasionally, the blood remained incoagulable with 35 gamma of protamine. In no instance was a prolonged prothrombin time observed in the animals. Fibrinogen was present in all plasma samples and normal blood calcium values were obtained. The most common morphological abnormality encountered in the leucocytes was the appearance of giant neutrophils. Frequently these giant cells contained a nucleus with 8 or more lobes spread over the entire cytoplasm. Figures 5 and 6 are representative of this type of cell. Basophilic degenerating leucocytes are often seen and neutrophils with nuclear disintegration are encountered (Figure 7). Megakaryocytes are occasionally seen in the peripheral blood (Figure 8) and blast forms with nuclear disfiguration occur.

The histologic effects on the blood-forming tissues produced

* Polymorphonuclear in man.

by 3 mg/kg of nitrogen mustard were similar to those caused by 800 r X irradiation. The immediate cytotoxic effects, especially on the hemopoietic tissues are similar, if not identical. The same cell types are susceptible. After either agent the tissues pass through stages of phagocytosis of debris, atrophy, and regeneration. However, after the administration of nitrogen mustard, the regeneration is a little more rapid but the mechanism, heteroplastic cytopoiesis from reticular cells and homoplastic cytopoiesis from the few residual susceptible cells, is the same.

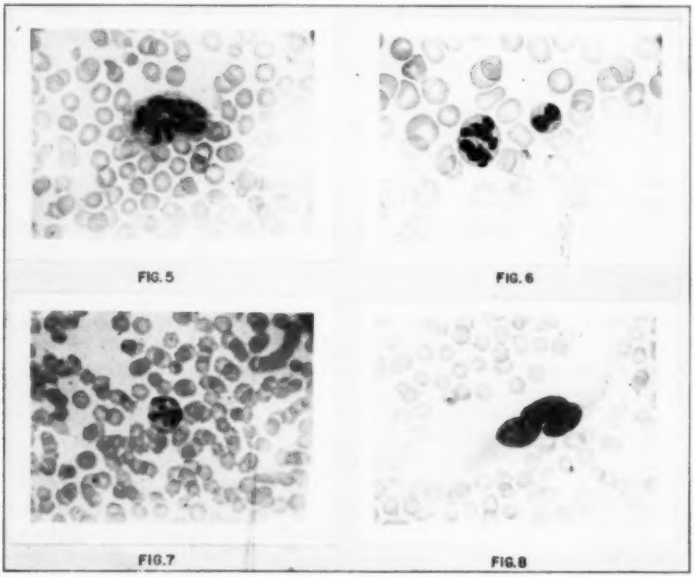


Figure 5. Giant multi-lobed neutrophil from the blood of a rabbit 72 hours after 800 r total body X irradiation.
Figure 6. Giant polymorphonuclear neutrophil from the blood of a human after nitrogen mustard administration.
Figure 7. Heterophil from the blood of a rabbit showing nuclear degeneration.
Figure 8. Megakaryocyte from the circulating blood of rabbit.

7. Discussion

From the standpoint of the medical technician *and* the physician it is interesting that a physical agent (X irradiation) and a chemical agent [methyl *bis* (β chloroethyl) amine hydrochloride] are similar in so far as effects on blood and blood-forming tissues are concerned. The findings in the peripheral blood produced by

these agents reflect the destruction which is observed in the bone marrow and lymphatic tissue. The mechanism for the production of the morphological changes such as giant myelocytes is not clear. It would appear however that these morphological changes appear as suggested by Jacobson *et al*[6] as a result of the alteration produced in the cell by the initial insult of the radiation or nitrogen mustard.

The observation that X irradiation and therapeutic doses of nitrogen mustard may produce a prolonged whole-blood clotting time due to a hyperheparinemia[7,8] has made the heparin tolerance test an important laboratory procedure. Antiheparin substance such as protamine sulfate have the capacity to correct this clotting abnormality produced by X irradiation and nitrogen mustard within brief periods.[9,10] There is some evidence to suggest that in certain cases of leukemia, lymphomata, and idiopathic or secondary thrombocytopenia the whole-blood clotting time may be prolonged and that the coagulation defect is related to an increase in heparin or a heparin-like substance in the blood.[11]

8. Summary and Conclusions

1. A single intravenous or intracardial injection of 3 mg of nitrogen mustard per kg of body weight produced effects on the hemopoietic system of rabbits largely comparable to those produced by a single exposure to 800 r X radiation or exposure of fast neutrons.

2. Reticulocyte values were markedly reduced and a slight anemia occurred.

3. Leucocyte values were decreased and a lymphopenia occurred. Recovery was only partially complete by 35 days for these blood constituents.

4. A prolongation of the clotting time of the whole blood developed within 24 hours while the platelets were reduced by the 4th day. Heparin tolerance paralleled the whole-blood clotting time.

5. Prothrombin time and calcium values remained within normal limits and fibrinogen was present in all samples.

6. Recovery proceeded more rapidly following nitrogen mustard administration than following X-ray exposure at comparable dose levels.

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"CAN ASMT CONTINUE TO STAND ALONE—UNESCO, WHO"*

Paper prepared by 8 students and Sister M. Alcuin, OSB. M.S., MT. (ASCP) College of St. Scholastica, Duluth, Minnesota.

Scholars, scientists, educators, artists, and writers have always moved about the world, working together, giving little heed to national boundaries. During the last half of the previous century their cooperation became organized to the extent of forming permanent international organizations. This movement grew stead-

* Read at the 16th annual convention program of American Society of Medical Technologists in St. Paul, June 7, 1948:
Background of UNESCO—Miss Ruth Ristau.
Structure of UNESCO—Miss Margery Cahoon.
Background of National Commission—Miss Laura Scott.
Organizations with or without agreement—Miss Mollie Haanen.
Spiritual Contributions—Miss Evelen Rother.
Cultural Contributions—Miss Mary Jane Russ
What UNESCO hoped to accomplish—Miss Barbara Shippy.
What UNESCO did accomplish—Miss Virginia Schultz.
Editor—Sister M. Alcuin, OSB.

ily before World War I, then rapidly between the first and second world wars, giving rise to international activities in all fields of life.

Patterns of international cooperation were set by voluntary groups—not governments. The motives of these groups were to improve and advance their own work by collaboration on common projects, and to strengthen international relations by developing mutual interests.

It was not until 1922 that international governments took action in this field trying to blend science, education, and culture with their historic collaboration in politics, economics, and finance and related fields for a common cause world security and a permanent peace. Thus the League of Nations tried to embody cultural relationships in its structure. After an initial failure a separate organization for this purpose, the International Committee on Intellectual Cooperation was established by the League. Unfortunately this Committee was confined to few activities and limited as to administrative and research facilities. Its work touched few people and a lack of funds added to its failure.

There were other limitations and shortcomings in international cooperation between 1918 and 1939, but the spirit of solidarity which this period fostered persisted during the last war and played a part in the resistance of teachers, scholars, and artists (as well as statesmen and politicians) to Axis forces. After 1939 and all during the second world war these groups recognized not only the problems arising from the devastation of war but the need of a bloodless means of maintaining a permanent world peace. Thus came into being a number of "alphabetical organizations" among them the UN, sponsor to a number of "specialized agencies"—UNESCO and WHO for examples.

UN is the "United Nations"; UNESCO is the "United Nations Educational, Scientific, and Cultural Organization," and WHO, the "World Health Organization."

The UN personnel are politicians, economists, and diplomats working for world security and a permanent peace through the enforcement of international law and justice. The UNESCO personnel are ministers of education, school men, scientists, sculptors, artists, and philosophers working for peace and welfare of the world through the instruments of science, culture and education. The WHO personnel are such as can cope with the physical, mental, and social health of humanity as implements for attaining security and world peace.

UN evolved stepwise over a period of 4½ years, UNESCO stepwise over a period of 3 years, but WHO's background is not stepwise—it is rather a parallel of circumstances, some still existent, that have caused CHAOS in its field of competence.

On January 6, 1941, President Roosevelt, in his message to Congress gave a basis on which to build UN. His famous words of that message are:

"Our objectives are clear, the objectives of smashing militarism imposed by war lords upon their enslaved peoples, the objectives of liberating the subjugated nations, the objective of establishing and securing *freedom of speech, freedom of religion, freedom from want,* and *freedom from fear* everywhere in the world."

Almost 7 months to the day after this speech, out in mid-ocean, President Roosevelt and Prime Minister Churchill signed the Atlantic Charter, a document listing in 8 points "certain common principles in the national policies of their respective countries on which they based their hopes for a better future of the world." Then on January 1, 1942, not quite a year after Roosevelt's speech, 26 nations joined later by 2 more, signed[1] a DECLARATION in Washington pledging themselves to fight together for the principles outlined in the Atlantic Charter. In a sense this was *a* UN but not *the* UN. Then followed annual events—1943, the meeting of the four nations in Moscow; 1944, the meeting at Dumbarton Oaks; 1945, another at Yalta; and less than 3 weeks after this, June 26, 1945, the historical San Francisco meeting with the creation of *the* UN. Fifty-one nations[2] signed its instrument for operation,[3] the Charter (and the Statute of the International Court of Justice) drafted there.

Embryonic UN had been conceived. It was now put into the hands of a Preparatory Commission until its birthday—a split one, the first part in London, January 10-February 14, 1946, and the last part in New York, October 23-December 16, 1946. Its second meeting was held at Lake Success, Long Island, September 16-November 29, 1947.

In October 1942, a group of professorially interested men representing the governments-in-exile in London laid part of the foundation for UNESCO in forming the Conference of Allied Ministers of Education—CAME. This conference considered re-

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[1] Signatories were: 1. United States, 2. Great Britain, 3. Russia, 4. China, 5. Australia, 6. Belgium, 7. Canada, 8. Costa Rica, 9. Cuba, 10. Czechoslovakia, 11. Dominican Republic, 12. El Salvador, 13. Greece, 14. Guatemala, 15. Haiti, 16. Honduras, 17. India, 18. Luxembourg, 19. Netherlands, 20. New Zealand, 21. Nicaragua, 22. Norway, 23. Panama, 24. Poland, 25. South Africa, 26. Yugoslavia, 27. Mexico and 28. Philippines.

[2] UN signatories, 1-28, 29. France, 30. Argentina, 31. Bolivia, 32. Brazil, 33, Byelorussian Rep., 34. Chile, 35. Colombia, 36. Denmark, 37. Ecuador, 38. Egypt, 39. Ethiopia, 40. Iran, 41. Iraq, 42. Lebanon, 43. Liberia, 44. Paraguay, 45. Peru, 46. Saudi Arabia, 47. Syria, 48. Turkey, 49. Ukranian, 50. Uruguay, and 51. Venezuela.

[3] Copies of these documents were written in UN's authentic languages—French, Chinese, Russian, English, and Spanish, and deposited in the archives of the U. S. government. Certified copies were transmitted to each of the signatories.

habilitation, once the war was over, of the educational institutions of the countries of its membership. In 1943 CAME presented positive plans for educational rehabilitation, U. S. sending an observer to join CAME in the person of Senator William Fulbright. In 1944, U. S. actually cooperated with CAME in drafting a constitution for a *temporary* international education reconstruction agency. Later U. S. aided in composing a draft constitution for *permanent* international organization for educational, and cultural cooperation, thus supporting the proposals at Dumbarton Oaks for using cultural cooperation in maintaining peace. (Later through the insistence of U. S. "scientific" became a part of the means and the name of UNESCO.) In 1945, through recommendations from the San Francisco Conference and recommendations from CAME, and upon invitations extended by the host governments, Great Britain and France, 42 nations met in London to create UNESCO. In two weeks' time, November 1-15, 1945, these nations compiled a constitution and created a preparatory commission for UNESCO, and adopted some pertinent resolutions, among them to make Paris UNESCO's permanent headquarters. On November 16, 1945, these 42 nations[4] signed the constitution, UNESCO's instrument of operation.[5] Thus the embryonic UNESCO was conceived, placed in the hands of a Preparatory Commission until its birthday in Paris at the Sorbonne, November 19-December 10, 1946. Some 2000 representing delegates from the 31 Member States,[6] and observers from 13 other countries,[7] 11 intergovernmental organizations and 70 international nongovernmental organizations participated in this meeting under a distinctly French setting. The second birthday meeting occurred in Mexico City at the Teachers' Training College, November 6-December 8, 1947. About 2000 representing delegates from 32 Member States[8] and observers participated in this meeting under a distinctly Spanish setting.

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[4] Signatories as on p. 68 except the Russians and the Latin American countries: Venezuela, Costa Rica, Honduras, Paraguay and Uruguay. Venezuela sent an observer as did seven international organizations, among them UNRRA.

[5] Two copies of UNESCO's constitution were written in UNESCO's authentic languages, French and English, and deposited in the archives of the English government until Paris could receive them. Certified copies of the constitution were transmitted to signatory nations.

[6] Membership is attained by signatories depositing a certificate of acceptance of the Constitution. This U. S. did July 30, 1945. For membership see code p. 68—1, 2, 4, 5, 6, 7, 10, 11, 13, 15, 17, 19, 20, 22, 24, 25, 27, 28, 29, 31, 32, 36, 37, 38, 42, 43, 45, 46, 47, 48, and 51.

[7] See p. 68—9, 12, 14, 18, 21, 24, 26, 30, 35, 40, 41, 50.

[8] No. 9—Cuba became the 32nd member. Switzerland, Austria, Italy and Hungary were seated at the Mexico City General Conference.

The background contributing to the creation of WHO really began in 1851 when France tried to create international cooperation for combating the cholera epidemic then raging in Europe. The first international sanitary conference was called in Paris but it, like the five following, was a failure. Forty years later when the cause and modes of transmission of disease were better understood, four International Sanitary Conventions came into force, the first three directed against the spread of cholera. Thus in 1892 at Venice action was taken against its spread through the Suez Canal by water, in 1893 at Dresden, its spread by land, and in 1894 at Paris, its spread by Moslem pilgrims. The fourth, in 1897 at Venice, was directed toward the spread of the plague (the Black Death then raging).

International Sanitary Conventions of 1903, 1912, 1924, 1938, and 1944 respectively, were created for the prevention of the spread of diseases[9] by maritime and aerial commerce. But the 1924 Convention formed the basis for international health cooperation, not only disease prevention. At this writing some of these and other Conventions are in force but only a limited number of states have ever been parties to any one Convention. It follows that the operations of these Conventions have been very unsatisfactory.

At the first session of the Economic and Social Council of UN in London in 1946, a technical committee was appointed to prepare for an international conference on health matters. This World Health Conference met in New York, June 1946, and offered the draft Constitution for WHO. On July 22, 1946, 63 nations signed it, and the embryonic WHO went into an interim stage in which it is still functioning. Its birthday shall be 6 months after 26 nations,[10] UN members, have ratified its constitution. When WHO's constitution comes into effect it will have, under international law, "the status of an international convention" and will remedy the "chaotic state" in the prevention of disease and will make possible modern advances in the field of international health and world peace.

In passing a brief comparison may be made of the structure of UN and of UNESCO, dismissing WHO by likening it to the UNESCO framework. The chief Organs provide for the *"town meeting,"*[11] where the membership determines the policies and

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[9] Cholera, plague, typhus, yellow fever, and smallpox.

[10] These 17 have membership (See code p. 68) 2, 4, 7, 15, 19, 20, 22, 25, 39, 40, 41, 43, 46, 47, 48, Siam and Sweden. While 1, 17, 26, 29, 32, and 36 are likely 1948 candidates.

main lines of action of their respective organizations and approve in general their program of action; the *Executive Board*[12] which in the case of UN breaks down into "The Police Force" where order is maintained and constituted of 2 councils and the "Courthouse"[13] where justice is meted out; and the "Welfare Board"[14] which primarily safeguards human rights and the fundamental freedoms.

In safeguarding human rights and the fundamental freedoms the Social and Economic Council (Welfare Board) makes or initiates studies and reports with respect to international, economic, social, cultural, educational, health and related matters, dealing *within* the UN with the Assembly or with individual Mem-

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[11] **Name:** In UN: General Assembly; In UNESCO: General Conference.
Membership (applies to both organizations): 5 delegates per Member State with but 1 vote per delegation—members in office at pleasure of nations they represent—working under the direction of a President elected annually by the membership in ordinary session.

Meeting: Annually in ordinary session at a place determined by the previous annual convention of the membership; and, under special conditions in extraordinary sessions.

[12] **Name:** In UN: (a) Security Council, (b) Trusteeship Council; In UNESCO: Executive Board.

Membership (UN): Permanent seats by these 5: China, France, Russia, Great Britain and U.S.A. with the right of veto, and 6 temporary members elected every second year; all working under a President of their own choosing and membership. This group functions continuously. (b) Trusteeship Council made up of Members that administer to trust territories (among others) and operating under a President of their own choosing and membership.

Membership (UNESCO): Made up of 18 members elected by the General Conference for a term of 3 years and subject to re-election but once; one-third of the Board being new each year. They operate under the officers elected by them from their membership, the chief of whom is called the Chairman. The Board meets annually at least twice. Functionally: it is the Organ that carries out the program of the General Conference.

[13] Called International Court of Justice and constituted of Member States of UN.

[14] **Name:** In UN: Economic and Social Council.

Membership (UN): Similar to that of the Executive Board of UNESCO. (q. v.)

[15] These specialized agencies are devised to handle in broad fields of international activity finance (International Bank for Reconstruction and Development, The International Monetary Fund); trade policies; and policies related to food, agriculture (FAO—Food and Agriculture Organization); labor (ILO—International Labor Organization); welfare and related social questions, education, culture (UNESCO—United Nations Educational, Scientific, Cultural Organization); health (WHO—World Health Organization); and certain transportation and communication facilities (ICAO — International Civil Aviation Organization, UPU — Universal Postal Union, ITU—International Telecommunications Union).

ber States; and *without* UN with 'specialized agencies,"[15] and non-governmental international and national agencies.

With respect to the membership of the Executive Board of UNESCO, the members are chosen on the basis of COMPETENCE in arts, science, humanities, education, and the diffusion of ideas, and QUALIFIED by their experience and capacity to fulfill the administrative and executive duties of the Board.

And lastly, in both organizations there is the SECRETARIAT or the office personnel and constituted in UNESCO of approximately 500 persons in constant session under a Director-General (Secretary-General in UN) nominated by the Executive Board (Security Council in UN) and approved by the General Conference (Assembly) for a term of office of 6 years and subject to re-appointment. The Director-General appoints (subject to staff regulations approved by the General Conference) and is assisted by a staff of technical advisers, experts, secretaries and clerical help. It is in the SECRETARIAT that experts work, research and informational channels are coordinated, and liaison activities set up. The work of the SECRETARIAT is international in character and not subject to the instructions of any government or any authority outside of UNESCO. It is broken down into 6 program sections.[16] The improvement of the Secretariat's morale is 1948's concern.[17]

It seems understandable that 2 organizations paralleling each other in their background and in their structure, coming into existence for the same purpose at about the same time and under the same circumstances, would, of necessity function reciprocally. Looking through the provisions of the Charter of UN and the Constitution of UNESCO, the willingness to cooperate in a common field of competence is noted. Passing over Article I on the Purposes of the Charter[18] of UN (which has a counterpart in the constitution of UNESCO) subsequent articles in each instrument detail the extent of this cooperation.[19, 20, 21, 22, 23, 24.]

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[16] Education; Mass Communications; Libraries and Museums; Natural Sciences; Social Sciences, Philosophy, and Humanistic Studies; and Creative Arts.

[17] The search is for a minimum number of key people geographically distributed to form the nucleus of a group of permanent officials for program execution and administration, and experts on a temporary basis to carry on.

[18] UN Charter, Article I, Sec. 3: "To achieve international cooperation in solving international problems of an economic, social, cultural (health and related problems) or humanitarian character (educational cooperation), and in promoting and encouraging respect for human rights and for fundamental freedoms for all without distinction as to race, sex, language or religion."

A triad of cooperation exists as outlined in the following scheme between the Economic and Social Council of UN, WHO and UNESCO. The reader must interpret UN as the sponsor of 9 specialized inter-governmental agencies (only UNESCO and WHO to be discussed), and recognize that the sponsor and the specialized agencies (and some of the other organizations) are "brought into relation" with each other by "written agreement." These "agreements" provide for reciprocal representation in meetings *without* vote, and pooling of agenda; exchange of information; correlation of statistical and administrative services; budgetary and financial arrangements; arrangements for sharing regional and branch offices and exchange of staff; and in many other ways maintaining effective liaison as already indicated in the discussion on the SECRETARIAT.

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[19] Article 57: "The various specialized agencies, established by inter-governmental agreement and having wide international responsibilities, as defined in their basic instruments, in economic, social, cultural, educational, health and related fields, shall be brought in relationship with the UN in accordance with the provisions of Article 63." "Sec. 2: Such agencies thus brought into relationship with the UN are hereinafter referred to as specialized agencies."

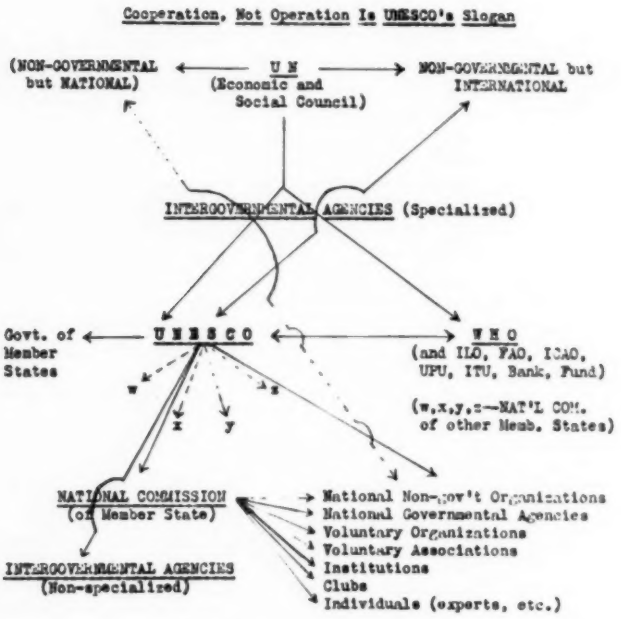
[20] Article 63: "The Economic and Social Council may enter into agreements with any of the agencies referred to in Article 57 . . . subject to the approval of the General Assembly." "Sec. 2: It may coordinate the activities of the specialized agencies through consultation with and recommendations to such agencies and through recommendations to the General Assembly and to the Members of the UN."

[21] Article 71: "The Economic and Social Council may make suitable arrangements for consultation with non-governmental organizations which are concerned with matters within its competence. Such arrangements may be made with international organizations and, where appropriate, with national organizations after consultation with the Member of the UN concerned."

[22] From UNESCO's Constitution, Article X: "This Organization shall be brought into relation with the UN as soon as practicable, as one of the specialized agencies. . . . This relationship shall be effected through an agreement with UN."

[23] Article XI: "This Organization may cooperate with other specialized inter-governmental organizations and agencies whose interests and activities are related to its purpose." "Sec. 2: (Such agencies may) effect a transfer of their resources and activities to this Organization." "Sec. 4: The UNESCO may make suitable arrangements for consultation and cooperation with non-governmental international organizations concerned with matters within its competence, and may invite them to undertake specific tasks."

[24] Article VII: "Each Member State shall make such arrangements as suit its particular conditions for the purpose of associating its principal bodies interested in educational, scientific and cultural matters with the work of the Organization, preferably by the formation of a National Commission broadly representative of the Government and such bodies."



The sponsor-agency relationship 1) gives the agency a consultative status, 2) makes it the recipient of recommendations, and 3) expects of it reports on action taken on recommendations. The interrelationship between agencies and agencies, and between agencies and organizations other than the sponsor covers provisions 1), 2), and 3) above, and in addition permits specialized agencies to become heirs of resources and activities of other intergovernmental agencies, and the recipient of "gifts, bequests, and subventions" directly from government, public and private institutions, associations and private individuals.

When UNESCO "operates" it is only in "pilot projects" in order to initiate subsequent action by voluntary organizations, institutions, and individuals. This "operation" means cooperation through a number of channels as indicated in the scheme, chief of which is the National Commission for each Member State.

The United States National Commission of UNESCO came into being when President Truman signed Public Law 565 of the 79th Congress, July 30, 1946. Law 565 is an outgrowth of Article VII of UNESCO's constitution providing for the Membership, Executive Committee, and Secretariat[25] of the Commis-

sion. The By-Laws provide for the officers, among other provisions.

The Membership shall be composed of not more than 100 persons, citizens of the United States, and appointed by the Secretary of State. Of these:

60 constitute 1 representative each of the principal national voluntary organizations (interested in educational, scientific, and cultural matters);
10 represent individuals employed by, or holding office in the U. S. government;
15 represent the educational, scientific, and cultural interests of state and local governments; and
15 members named at large.

The 60 organizations named are selected on the basis of these criteria: 1) They are national; 2) Recognized generally in their respective field to be representative and reputable; 3) Known to be effectively concerned with international relations in their respective fields as indicated by history and practice; and 4) Competent to make valuable contributions to the work of the National Commission.

Each member has a 3-year term of office, subject to re-election but once, one-third of the members being new annually. "The National Commission shall annually review and . . . revise the list of . . . organizations designating representatives."

The Commission shall meet annually[26] for election of officers[27] and members of the Executive Committee[28] and for hearing

[25] The Secretariat is a staff taking care of the administrative and secretarial services, and services of research; reporting and editing for all the meetings of the Commission and its Organs. It is appointed and paid by the Department of State but subject to the approval of the Executive Committee. The Secretariat operates under the Executive Secretary, its chief officer.

[26] The date is determined by the Executive Committee and preferably several months before the annual session of the General Conference of UNESCO. When need arises special meetings may be called.

General Conferences of the National Commission also may be called annually or biannually at which 1) organizations within the U. S. concerned with UNESCO activities, 2) Members of the National Commission, and 3) Members of the U. S. delegation to the General Conference of UNESCO, may be present. The first of its kind was held at Philadelphia, March 24-26, 1947, at which over 500 national organizations were represented. A regional Conference was held at Denver, May 15-17, 1947, at which 8 Mountain-Plains states sent more than 1800 representatives.

[27] The officers are 1 chairman and 3 vice chairmen elected at the annual meeting of the Commission for a term of 1 year and subject to re-election twice. At present the Chairman of the National Commission is Milton S. Eisenhower, president of a Kansas college, and as a recent journal put it a "younger, scholarly edition of Ike."

reports and deliberating on matters referred to it by the Department of State, and by its own Executive Committee.

The duties of the National Commission are fivefold: 1) To advise the government in matters relating to UNESCO, and in matters referred to it by the Department of State; 2) To act in a consultative capacity with regard to the appointment of UNESCO delegates; 3) To advise these delegates; 4) To serve as an agency of liaison with the thousands of organizations, institutions, and individuals in U. S. interested in UNESCO activities to maintain permanent world peace; and 5) To promote in the U. S. an understanding of the general objectives of UNESCO.

September 23-26, 1946, the National Commission came into existence at Washington, D. C.[29] During these 4 days the Commission, besides fulfilling duties routine to it, studied all matters pertaining to UNESCO, and ratified its own By-Laws. Its second annual meeting occurred in Chicago, September 11-13, 1947.

The National Commission is the "collective brain to the whole nervous system of American culture, science, education, and means of communication." In conjunction with similar national commissions it shall make of UNESCO "the cutting edge for international actions," "the spearhead of the UN."

UN and UNESCO are entering upon their second year of life. As an embryo WHO has carried on about as long. Like all youth UNESCO's eyes were bigger than her stomach. She "dished up" for herself at the Paris Conference a program filling a 165-page brochure covering 150 projects. For various reasons, some as practical as these: "UNESCO House"—an old hotel in Paris was not heated, lighted or equipped to help UNESCO and her personnel "to preserve, increase, and disseminate knowledge." The personnel constituting the SECRETARIAT was for the most part carry-overs from the Preparatory Commission, many of whose contracts expired, and the first task of UNESCO was either to rehire or replace these persons. Therefore it was

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[28] The Executive Committee consists of 15 members (in addition to the officers) elected by the general membership for a term of 1 year and subject to re-election twice. This Committee is the governing body between annual general meetings of the Commission, and, at all times, executes the affairs of the Commission. It meets twice annually.

[29] After the passing of Public Law 565 the Department of State on August 15, 1946 invited 50 National Organizations to send representatives to Washington to become members of this National Commission. Later it named 40 additional persons. Those in and about Washington, D. C., acted as a Preparatory Committee and held 2 meetings, September 9 and September 18, at which time the By-Laws and the agenda for the first meeting of the Commission were prepared.

April, 1947 before UNESCO's program got under way. Priority was given to reconstruction, then in order activities in the following areas: Education, mass communications, natural science, humanities, creative arts, and cultural institutions. But the actual accomplishments for 1947 may nicely fall under four or five general headings: *Reconstruction* and rehabilitation, in which work along educational, scientific and cultural lines progressed very well; *education for international understanding* in which progress was sporadic; *fundamental education* in which it has "operated" in pilot projects as will be discussed later; *mass communications* in which area not too much was accomplished because of reorganization of staff; and *natural science* in which considerable progress has been made.

At the Mexico City Conference a modest 38-page brochure carried 1948's program which is in reality a continuation of 1947's program and simmers down to 6 objectives (with their corresponding popular interpretations): 1) *Reconstruction* (man helping man recover from the war); 2) *Communication* (man speaking to man); 3) *Education* (man helping man grow in knowledge); 4) *Cultural Interchange* (man sharing with man the best things he has); 5) *Human and Social Relations* (man helping man to live together); and 6) *Natural Sciences* (man helping man to know nature and control his environment). Priority still remains with Reconstruction.

On February 14, 1948 the Executive Board met in Paris at which time the budget, rearrangement of UNESCO's program, and plans for a permanent working organization formed the agenda.

Up to date UNESCO has entered into relationship with UN, its sponsor, with WHO, a specialized agency like itself; and with ISCU, a non-specialized intergovernmental organization known as the International Council of Scientific Unions organized for internationalizing science, and recognizing UNESCO as UN's principal agency in the field of scientific relations. It has and will continue to collaborate with TICER, the Temporary International Council for Educational Reconstruction, an international non-governmental organization; and UPU, ILO, FAO, and ITU—4 specialized agencies.

Through its National Commission in the United States, UNESCO collaborates in *reconstruction* with the national non-governmental agency known as CIER—the Commission for International Education Reconstruction; in *education for international understanding* with the American Council on Education, Carnegie Endowment for International Peace, and the American Association for Adult Education; in *fundamental education* with the U. S. Office of Education; in *natural sciences* with the National Research Council; and through membership in the National Commission, with 60 organizations of which the American Chemical Society, Association of Amer-

ican Medical Colleges, National Academy of Science, and the National Research Council are of interest to medical technologists.

As in 1947, so more extensively in 1948 UNESCO shall seek to develop the idea of a world society. This it shall do by even wider collaborating in various capacities.[30] It shall encourage the forming of National Committees of non-governmental organizations in education, science, and culture; and the calling of conventions to attain this end.

UNESCO shall continue to furnish the SECRETARIAT for TICER and for the science project in connection with developing the Amazon Basin. It shall finance in part this same project. This Amazon project is the world's first truly international scientific undertaking. It began August 12-20, 1947 when the Brazilian government assisted UNESCO in calling a meeting of the International Science Council at Belem, Brazil, in which 10 countries[31] participated and at which time the INSTITUTE OF HYLEAN AMAZON RESEARCH was framed and its functions outlined. The plans for the INSTITUTE were approved at the Mexico City conference and UNESCO appropriated 100 thousand dollars to initiate the project[32] in 1948 a council is to be called of the participants of the Belem conference and representatives of other countries and international organizations interested, to set this INSTITUTE in action. Research can be conducted in the Amazon Basin in botany, zoology, chemistry, geology, meteorology, anthropology, and medicine.[33]

UNESCO will give grants-in-aid and other similar forms of assistance to international scientific and technological organizations, unions, and societies. It will "provide to scientific bodies

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[30] With UN, Member States, non-Member States; specialized agencies, governmental and non-governmental beneficiaries; international and national government and non-governmental organizations; public and private bodies; individuals as experts in finance and education; and individuals interested in UNESCO's activities; educational institutions; and sundry agencies.

[31] Brazil, Bolivia, Colombia, Ecuador, France, Peru, Venezuela, Great Britain, Holland and U. S.

[32] Brazil met this appropriation with 700 thousand dollars for the first year alone. Smaller contributions are being made by the above mentioned countries bordering on the basin as well as the Guianas.

[33] The Amazon Basin is the largest drainage basin in the world—2,772,000 sq. mi., and possessing natural resources virtually unexplored.

within nations, appropriate financial and other aid for carrying out scientific work of international significance along the lines of UNESCO's aims" subject to appropriate advice and authorization.

In 1947 UNESCO set up FIELD SCIENCE COOPERATION OFFICES in the a) Middle East, b) Far East, and c) Latin American (at Rio de Janeiro—this office closely coordinating with the Hylean Amazon project). In 1948 it hopes to set up a fourth in south Asia.

In 1948 it will create nutritional teams in conjunction with FAO, ILO, and WHO for India, Hylean Amazon, China, and Africa.

UNESCO shall finance 10 new fellowships or make the equivalent expenditure in travel grants as indicated. It shall collaborate in administering fellowships offered, or to be offered by governmental voluntary organizations and individuals keeping in mind UN, WHO and other specialized agencies' policies in this respect. Along these same lines it is to work for interchange of persons by Member States, especially mature persons of a research caliber or professional or technical proficiency.

A survey is to be made canvassing information from institutions and organizations granting fellowships, scholarships, travel grants and other similar instruments for intellectual advancement. This survey is to ascertain the number, character, availability, sponsorship, and the award, field, and country of study for such instruments.

In 1947 UNESCO gave assistance in awarding 60 fellowships provided by certain Member States and organizations.[34] WHO, through its Interim Commission, has granted 66[35] out of an estimated of 200 to be granted to public health specialists for study outside of their own countries. This WHO project is the first selection of doctors, nurses, and other public health workers under an exchange program whereby scientists and medical specialists will share in the advances of medical knowledge on a world-wide basis.

UNESCO is to collaborate with UN in unifying means to supply emergency relief needs for children, adolescents, and expectant and nursing mothers, and to supply education to the war-handicapped children. Collaboration with UN, ITU, and

[34] Five from Belgium, 30 from France, 5 from Netherlands, 10 from America (through the American Chemical Society), and 10 from Great Britain.

[35] Eighteen from China, 18 from Yugoslavia, 15 from Czechoslovakia, 5 from Finland, 4 from Austria, 3 from Poland, 2 from North Korea, and 1 from Greece.

UPU is to be continued concerning the free flow of information. Already as early as August 4-9, 1947, a conference of experts worked in Paris on the feasibility of a world-wide radio network. The activities initiated there of promoting the production, distribution and use of publications, films and radio broadcasts on UNESCO aims through National Commissions of UNESCO are to continue throughout 1948. In the same city, August 25-30, 1947, a conference of experts[36] met as the Commission on Technical Needs in Mass Communication for UNESCO and surveyed the needs in this field in nine European and two far East countries.[37] Shortage on newsprint, radios, and movie films alone demanded appropriations nearing a hundred million dollars. In 1948 the survey is to be extended to South and Central American countries, India, Burma, Siam, Indonesia, and further European countries.

A universal system of international copyright relations, and an international book coupon system enabling countries of depreciated currency to buy books are aims to be attained for the free flow of information in 1948.

The work of experts in committee will cover in 1948, 1) science abstracting particularly in medical and biological periodicals—of interest to medical technologists; 2) publications exchanged; and 3) philosophical analysis of current ideological conflicts. A panel of experts will be created in education to service UNESCO pilot projects.

"Pilot projects" in the field of education were created in 1947 in a) Haiti on a 20-square-mile tract of land where 75 percent of the 26,000 inhabitants can neither read nor write; b) Nanking, China, where in October, 1947, three representatives of UNESCO agitated for a similar project for which UNESCO will supply the adviser; and c) British East Africa (Nyasaland) where in an attempt to cultivate peanuts on a wholesale basis for nutritional purposes wild tracts of land are being made arable and natives educated cooperately — in these educational projects medicine as an application for community hygiene will be stressed. In 1948 it is hoped that Tanganyika will be made a participant in this African project. A fourth project is to be established in 1948.

The experts working in the Commission in Technical Needs for Education in the interest of UNESCO surveyed five war-devastated countries[38] but gave their reports less publicity than

[36] Representing international organizations and governments.

[37] France, Belgium, Luxembourg, Netherlands, Norway, Denmark, Czechoslovakia, Yugoslavia, Greece, China, and the Philippines.

similar surveys of experts will receive this year. However with the limited publicity, from January 1946 to July 1947, 104 million dollars were collected for reconstruction in education (mostly from 300 private voluntary U. S. organizations); 50 sets of laboratory equipment were consigned to 41 selected laboratories in five of the countries; 2,000 libraries had been restocked and in 13 countries reconstruction of museums had been completed. This work must go on for not all of the 6,399 school buildings heavily damaged in Poland, the 6,907 schools totally destroyed and 6,789 partially destroyed in the Philippines, or the educational materials, books, maps, and supplies ruined have been replaced. The question strikes home when we learn of teachers in Greece having to take their students to beaches to write their lessons in the sand for pencils cost $5 each. This is but an example.

Furthermore, in the field of education, seminars are to be conducted in strategic points similar to the one at Paris in 1947. Something is to be done toward establishing an International Association of Universities and equivalence given to academic degrees. In the field of vocational guidance, UNESCO will collaborate with the International Labor Office in the study and development of vocational guidance, orienting the technical training toward achievement of UNESCO's aims. In collaboration with UN, UNESCO helped in the creation of a Bill of Human Rights and in 1948 it will help find educational opportunities open to women.

UNESCO became the successor to the activities and assets of the International Institute of Intellectual Cooperation which was liquidated in December, 1946. These assets were its library, archives, stocks of publications, copyrights and publishing rights pertaining thereto, furniture and other materials. Its personnel was given priority of employment in UNESCO.

At the present writing, UNESCO and the International Bureau of Education work "under agreement," but because of a common field of competence, the Bureau may merge its resources and activities with UNESCO.

According to its constitution, WHO works under the premise that "Health is a state of complete physical, mental and social well-being, not merely the absence of infirmity." Apparently its job is to prevent world epidemics[39] and to maintain world health at a high level. In 1947 it sent 70 tons of medical supplies to Egypt to vaccinate 750,000 individuals against cholera, doing this in a week's time, using airways for speed.

[38] China, Poland, Czechoslovakia, Greece and the Philippines.
[39] WHO replaces the International Office of Public Health.

UN appropriated three hundred thousand dollars to the Interim Commission of WHO in 1946; its maximum was to be one million dollars to the agency itself in 1947. WHO inherited $1,528,324 from UNRRA, $1,500,000 of which is to be used in giving fellowships (66 have already been accounted for), in rebuilding medical libraries in war-devastated countries and in setting up and managing health projects.

In 1947 WHO received at cost value the stock of publications of the Health Section of the League of Nations, and will also receive the furniture, archives, and financial assets of the League of Nation's Eastern Bureau of Epidemiological Intelligence at Singapore. The Darling Foundation and the Leon Bernard Fund assets are also to be transferred to WHO. In conjunction with the other "specialized agencies" of UN it is granted the use of the League's library (in UN custody) on medical health material.

From the program set up for it at a meeting in Geneva August[40] 30 to September 13, 1947, of the Interim Commission (15 nations represented including U. S.) WHO, in 1948 will act as a directing and coordinating authority in international health work. It will provide and assist in; a) Research; b) Interchange of medical information; c) Drafting international conventions; d) Standardization of nomenclature, diagnostic procedures, and pharmaceutical systems. It has definitely set up an attack on: a) Tuberculosis (by BCG vaccination teams); b) Venereal disease; c) Yellow fever (through yellow fever vaccine testing); d) Influenza (creating the National Institute of Health at Bethesda, Maryland, U.S.A., the flu laboratory); and e) Malaria (by meeting of malarial experts in Washington, D. C., May 1948, concurrently with the fourth International Congresses of Malaria and of Tropical Diseases). Among other health matters it plans a World Health Assembly in the western hemisphere in the spring and summer of 1948, and in August 1948, a meeting in London on "Mental Health and World Citizenship."

UNESCO is to continue, as has already been stated, all the activities enumerated and in addition to establish a world register of scientists and institutes.[41]

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[40] Russia has never been interested in UNESCO activities but it participated in the WHO Geneva meeting saying: "Man constitutes the highest value of our country."

[41] " . . . the activities of UNESCO which constitute a World Center of Scientific Liaison. These include such activities as the scientific apparatus information service, measures toward standardization, abstracts and other scientific documentation, rationalization of scientific publications, scientific films, exchange of scientific persons, facilitation of movement of scientists across frontiers, world register of scientists and institutes, collaboration with the UN and other agencies in the field of applied science."—UNESCO at Mexico City—Final Report, p. 20.

At the present time UNESCO is the "most underrated" agency in history but it will not be so by the end of 1948—UNESCO and UN have seen to that. In time, will UNESCO succeed? I will have to refer you to Mr. William Benton, who was chairman of the U. S. delegation to Paris and to Mexico City. He feels no organization will continue for long to make large investments if in the end there are to be no results. The 1948 budget is approximately 2 million dollars in excess of the 1947 budget which was 6 million dollars. In 1947, 75 percent of the money went for overhead; in 1948 it is hoped that of the 8 million dollars appropriated 5 million will go to realize UNESCO aims and the balance to overhead.

Secondly, as man learns to understand man, the solution to every human problem is to be found. No longer will "one man's information" become "another's misinformation." It is on this precedent that UNESCO's aims rest as implied in the words of the Preamble to its Constitution: "Since wars begin in the minds of men it is in the minds of men that the defenses of peace must be constructed."

If UNESCO fails in spite of the earnestness and fair play evinced, it will be for not patterning its conception and its operation on the United States. The United States has succeeded because it put itself under the proper Patronage, and wrote into the document of its conception—"The Declaration of Independence"[42]—and on every coin of its currency from the copper penny to the silver dollar, the secret of its success: "In God we trust!"

Have medical technologists a history traditional to that of other scholars in organizing? Do they know only national boundaries, i.e., are their interests no more than local to the United States? Where were they between the two world wars? Has it not been said that they came into being in World War I, grew of age in World War II and that their usefulness in the field of medicine has only scratched the surface as yet? Do they realize they are specialists in the natural sciences and that the inheritance of that branch of science is theirs? The social scientists, trailing the natural scientists, are only now conscious of the prestige of the ISCU and in 1948, so the record has it, they hope to have in their field a federation of international organizations of social workers and philosophers identical to an ISCU. They, too, hope to exchange books and materials; and to collect and dissemi-

[42] " . . . it becomes necessary to . . . dissolve . . . and to assume equal stations to which the Laws of Nature and Nature's God entitle them . . . We hold these truths to be self-evident that all men are created equal, that they are endowed by their Creator with certain inalienable Rights, that among these are Life, Liberty and the pursuit of Happiness . . ." The Declaration of Independence of the U.S.A.

nate information bearing on their research, learned institutions, and scholarly personnel; and to exchange personnel. To what extent have medical technologists indulged in any of these practices?

Are they grasping an opportunity to contribute their experts, activities, and assets in their field of competence to the greater security of mankind and a permanent world peace? Have they thought in terms of an international research laboratory—which blends well with the formation of an ideal world society? Do they realize that they have what UNESCO wants? Do they realize that in serving UNESCO for UNESCO aims or WHO for the same ends they are serving themselves? For instance through this great labyrinth of UNESCO cooperation, member governments will aid medical technologists through their organizations — the American Society of Medical Technologists (ASMT) — in providing visas for her scientists and making necessary diplomatic arrangements for groups and individual medical technologists active in UNESCO programs. UNESCO will supply her statistics and pertinent information or documents; will give special aids in service, material, and personnel, and will open up a possibility of making ASMT the core of an international association of medical technologists.

How can ASMT enter into UNESCO or WHO activities? It can do it stepwise: In 1948, perhaps by sending representatives to the next General Conference of the National Commission—it passed up the ones at Philadelphia and Denver. Or, through taking an interest in the immigration of displaced persons from western Europe that reconstruction there can progress along normal lines. In 1949, as a voluntary organization to seek membership in the National Commission of UNESCO, and in the years to come to aspire to representation in some key position in UNESCO or WHO proper.

In the light of all this can ASMT continue to stand alone?

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A.S.M.T. has been invited to send three members to the meeting of UNESCO to be held in Cleveland, Ohio, on March 31, April 1 and 2, 1949.

A MODIFIED TECHNIQUE FOR COUNTING BLOOD PLATELETS*

ELLEN SKIRMONT, EDNA K. MARKS, and LEON O. JACOBSON

Introduction

Extensive preventive measures were initiated by the Metallurgical Laboratory to avoid exposure of laboratory personnel to dosages of radiation considered to be above the tolerance or permissible level.** These measures included monitoring work areas and personnel with various ionization chambers. The blood and blood-forming tissues are known to be among the most sensitive indicators in the body to the effects of ionizing radiations,[1] and it has been amply demonstrated that adverse effects of radiation on the hematopoietic system are frequently reflected in the peripheral blood.[2]

Hematologic studies on persons working in the radiation laboratories were undertaken in an attempt to discover incipient damage to the blood-forming tissues. The results of these studies have been reported elsewhere.[3] Because hematologic studies were conducted between the morning hours of 9 to 11, and because of the number of individuals reporting daily, it was not possible to employ the usual technique for platelet counting. The method described below was therefore instituted.

Materials and Methods

In addition to standard hematological equipment, conical-shaped plastic, Lusteroid tubes, 65 mm x 10 mm were used. From a freshly bleeding puncture, (avoid pressure) blood was drawn to the 0.5 mark in a white blood diluting pipette and diluted to the 11 mark with a 3.5 per cent solution of freshly prepared sodium citrate. The pipette was gently shaken for 1 minute after which the entire content of the pipette was allowed to flow into a small Lusteroid tube. The tube was set aside at room temperature until sedimentation of the red cells had occurred. The platelets were then counted on the plasma when time permitted (within 24 hours). During the summer months when the tubes were allowed to stand overnight, they were placed in the ice box until a short while before counting, thus eliminating the growth of bacteria The counting chambers were set aside in a moist chamber for approximately 10 minutes after having been filled with a portion of the plasma. With a 4-mm objective the platelets were counted in 80 small squares in 5 groups of 16 squares in the central cross-ruled area of the hemacytometer. The total number of platelets counted multiplied by 1100 equals the number of platelets per cu mm. Since

* This work was done under Metallurgical Laboratory Contract No. W-7401-eng-37 (1944).

** 0.1 roentgen per 24-hour period.

the entire content of the pipette is used, the dilution factor is 22. Thus the usual formula may be used:

Number of platelets counted x the area counted x the dilution x the thickness of the counting chamber = the number of platelets per cu mm.

The normal number of platelets with this method is 275,000 ± 100,000 per cu mm.

Discussion

Lusteroid tubes were used in place of glass tubes because platelets adhere to glass, whereas they do not adhere to Lusteroid which is a plastic. It is possible that the adhesive force between platelet and plasma is greater than the adhesive force between the platelet and Lusteroid wall.

The advantage of the method lies in the time interval which may elapse between the collection of the blood and the counting of the platelets. Over 200 comparative tests made with the usual method gave slightly lower but consistent results (Table 1).

TABLE 1.

Subjects	Platelets/cu mm Direct Method	Platelets/cu mm Plasma Count
AB	250,000	225,000
MC	200,000	185,000
LR	210,000	200,000
RS	228,000	218,000
EG	220,000	225,000
MS	300,000	280,000
RG	320,000	285,000
RH	275,000	250,000

Summary and Conclusions

A technique for the counting of platelets in blood plasma is described which is recommended when it is not possible to count the platelets immediately after collecting blood. The technique requires standard equipment plus Lusteroid* tubes which are readily available and inexpensive. Results are comparable to those obtained with the usual direct methods.

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*Lusteroid Container Co., So. Orange, N. J.

THE HISTORY AND STANDARDS OF ALPHA DELTA THETA

MARGARET BREI, MT(ASCP), Wauwatosa, Wisconsin

When I was informed that the American Society of Medical Technologists wanted to present Alpha Delta Theta to the convention visitors, I was thrilled at the opportunity we were given —so let me begin this discussion by expressing our sincere thanks to the American Society (ASMT) and especially to Miss Frieda Claussen.

Four years ago in February, 1944, the two local sororities of Marquette University and the University of Minnesota merged to form the only national professional Medical Technology sorority, Alpha Delta Theta. Our local sorority was founded at Marquette because we felt a definite need of some professional and social organization to band together the girls who had a common interest—Medical Technology. Because Medical Technology was a comparatively new profession, the girls had the great task and privilege of founding the first national sorority.

Now, let me tell you a little about our organization. The objectives of the sorority are: to unite women preparing for and engaged in Medical Technology; to achieve definite standards in Medical Technology; to inspire members to greater individual efforts, and to raise the prestige of the Medical Technologist on the campus.

There are three classes of members—undergraduate, graduate, and honorary members. The undergraduate members are students enrolled in schools offering a Medical Technology curriculum leading to a B. S. or a B. A. degree. Alumnae are girls who were members of Alpha Delta Theta in school and have graduated in Medical Technology. Our honorary members are women professionally active in technology, chosen by the chapters. Undoubtedly you are acquainted with some of our outstanding honorary members—Miss Frieda Claussen, general chairman of this convention, Miss Estelle Downer a member of the technicians' board of advisors to the Registry (ASCP), Miss Ethel Trenary, Madison, Wisconsin, and other prominent technicians.

When our national constitution was drawn up, we had to agree on what kind of school we wanted to bring into our sorority and, after much discussion and experience our rule on new chapters is this—a chapter may be established in a college if the school offers either a B. S. or a B. A. degree with a curriculum in Medical Technology. This was a rather hard point to make because many girls were employed as technicians although their college degrees were not just that. However, primarily, our purpose was and is a sorority for Medical Technologists and thus our rule was made.

Alpha Delta Theta is not an honorary sorority because we felt that in order to be accepted into Medical Technology in the colleges the girls were carefully chosen by the school authorities. Our minimum "C" average in classwork has enabled the great majority of students to become members. We do give awards to members who are outstanding scholastically. That's enough of the technical side.

As I said before, we began in 1944 with two chapters and now Alpha Delta Theta has been installed in seven colleges plus our alumnae chapters. The schools chosen have very good, well established courses in Medical Technology. They are, the universities of Minnesota, Marquette, Wisconsin, Indiana, Kansas State, Michigan State, Macalester College, and our latest addition, St. Scholastica.

We have a yearly convention with one of the active chapters in charge. In this way the girls, undergraduate and alumnae become well acquainted with the sister chapters and the workings of a national organization. Each chapter has a very definite responsibility to the others in forming policies and electing officers.

As a final word let me add that the sorority has definitely united especially the students in Medical Technology. In the undergraduate chapters the members become accustomed to cooperating with a group and working for one interest. The girls write their own local constitutions and completely take care of their chapter affairs. The alumnae have become scattered all over the country with a few alumnae chapters definitely established. These graduate Alpha Delta Thetas are very active in their other professional organizations — local, state, and the American Society of Medical Technologists. I'm sure all of the girls feel that their membership in Alpha Delta Theta has made them more enthusiastic Medical Technologists.

ACTIVITIES OF ALPHA DELTA THETA LOCAL AND NATIONAL

MARIAN DALLMAN, MT (ASCP)
Fargo Clinic, Fargo, N. D.

In trying to describe the activities of Alpha Delta Theta, I am going to list the objectives as found in the national constitution and tell how each is fulfilled both in the national and local organizations.

The objectives are:

1. To unite women preparing for and engaging in Medical Technology.

2. To achieve definite standards in Medical Technology.
3. To raise the prestige of the Medical Technologist on the campus.
4. To inspire members to greater individual effort.

Women preparing for Medical Technology are the undergraduates on the campus. These women are united by two means, by social and professional activities. Social activities begin for these women with the rushing and pledging season. At this time a rushing tea is usually given to acquaint the rushees with the active members. Following this an informal party such as a bridge party or picnic is given. Both serve as means for the girls to become better acquainted with each other as well as with the organization itself. The girls are then asked to pledge, and at a dinner or special meeting the pledging service is carried out. The girls in the pledge class are organized with their own officers to direct the activities of the pledge project, etc. Girls are not pledged earlier than their sophomore year since by that time they are fairly sure they will remain in the course.

Meetings are usually held twice monthly, or at the local chapter's discretion. Sometimes a dinner precedes the meeting, giving the girls an opportunity for an informal get-together. A dinner is always held to observe Founder's Day in February. Parties of various kinds play an important role in the social life. Parties are often given for instructors at the hospital, exchange parties with another chapter or another professional sorority, or for a medical fraternity. (One chapter has adopted a medical fraternity as their "big brother"). At various seasons of the year the chapter makes toys and gifts for children's hospitals and fills baskets of food for needy families.

Once or twice during the year a formal dance is held which is usually a social highlight. I might add that money to pay for these functions usually is not taken out of the working treasury, but the extra amount is assessed the students outside the regular dues. As in any other organization to which people are loyal, traditions develop. These traditions often remain in the memories of the students long after graduation, such as passing candy to announce engagements, etc.

Many chapters conduct rummage and candy sales as money-raising projects. These funds are used wherever most needed, such as campus organizations, Red Cross, formerly the war effort, and to pay local expenses such as transportation of delegates to the convention.

Professional activities include speakers in the medical field, such as professors in the medical schools, research men, and other medical technologists. Occasionally the group visits other labs and institutions. Study groups are often held for the regis-

try exams and test files are sometimes set up for the benefit of the underclassmen.

The women engaged in Medical Technology are the alumnae members of Alpha Delta Theta, those women having been members of A.D.T. while students. Their social functions are similar to the social functions of the active chapter,—bridge parties predominate. Meetings are most often held in the members homes, since many of the alumnae members are married, but still are active in the profession and are actively interested in the sorority.

The alumnae chapters are more effective in promoting professional activities than the active chapters. Many outstanding speakers have appeared at meetings which were held in connection with local and state medical technology societies. To many of these meetings the active chapters have been guests. This not only acquaints the students with leading medical people, but also with the mechanism of the medical technology societies. Alumnae chapters act as a definite link between students and graduates. The alumnae members are qualified to give the students information concerning jobs, wages, and the profession in general. One alumnae chapter carried out successfully an educational project which was a direct benefit for the students. They held "career conferences" to interest high school students to enter the profession. They expanded the present course at the school by promoting a broader theory background for the students. Alumnae chapters are invaluable in a larger city where students remain to work when graduated, but they are impractical as well as impossible when the students are spread over a large area.

The second objective is to achieve definite standards in medical technology. These standards in brief are: college people (students enrolled in a curriculum leading to a B. S. or B. A. degree) with a scholastic average of C or better for membership, high moral ideals, who are capable of assuming leadership and responsibility thereby being an asset to the sorority, who are active and enthusiastic in medical technology and who are intent upon making it their profession. There are no racial or religious discriminations. Negroes, Japanese, Chinese and Jewish people are all found among the members of Alpha Delta Theta.

The sorority has definitely proven its ability to raise the prestige of the medical technologist on the campus. Since medical technology is a comparatively new profession and the classes usually are small, many students are unaware of such a curriculum at their college. Aside from the nursing sorority, Alpha Delta Theta in most instances is the largest and most active professional sorority on the campus. By helping raise money and otherwise participating in campus functions, the sorority makes

itself known. Many members of the sorority are active in other campus organizations also, such as Y.W.C.A., A.W.S., academic sororities, student government, and publications.

The sorority has played a role in inspiring its members to greater individual effort. Scholarship is important since a member must maintain at least a C average. Competition with other campus organizations will stimulate higher scholarship when over-all averages of these organizations are made known publicly. Many A.D.T. members have been elected to honorary societies on the various campuses. Greater individual effort as far as the profession is concerned is also established. By becoming more acquainted with the profession through the alumnae members and speakers, students will realize their responsibility to the profession. They realize the importance of accuracy and dependability in their work, as well as for the need for medical technologists in hospitals, clinics, and research work. Not only are the girls aided professionally, but also socially. They learn to cooperate with their fellow workers; and holding an office gives valuable training in leadership and responsibility. Friendships are created which are not soon forgotten.

The national organization serves as a central nervous system with the local chapters as the nerve fibers. A toastmistress at an installation service during the war stated, "The national organization has supplied us with a car—we must provide the gas for it." The national convention is held annually at a college campus. At this time the chapters exchange ideas and bring their problems to be solved. National officers elected at this time are representative of all chapters and consist of both alumnae and active members. The national publication, *The Scope*, is published four times a year. Reports from the active and alumnae chapters as well as informative articles are contained in it. The national organization through its many chapters of Alpha Delta Theta serves to establish a unity between the students in Medical Technology throughout the country.

Future activities of Alpha Delta Theta include increasing the number of chapters, expanding the publication, establishing scholarship funds and education committees. The last three can be accomplished only when we have a large membership and a substantial treasury.

THE ASMT STANDARD OUTLINE FOR PREPARING ABSTRACTS

1. Purpose: To provide complete abstracts of timely articles in the current medical literature for ASMT members, especially for those who are handicapped by not having access to medical libraries.

2. Suitable Material: Abstracts for this journal must be pertinent to the actual practice of medical technology, i.e., articles describing new technics, combinations of technics, or those dealing with technical trends in instrumentation and, progress reviews of the various fields of medical technology and science.

3. Method of preparation:

a. Give complete title of article unless extremely long.
b. Give authors' complete names (include address if possible in order that our readers may request a reprint if they wish).
c. Give complete reference.
   (1) Correct abbreviation for journal. (Fishbein's Medical Writing has an excellent chapter devoted to this subject.
   (2) Record volume number, page number, the month, placed in parentheses, and the year: Ex: 48, 47 (Jan.), 1948.
d. Type—double space and allow wide margins.
e. The abstract.
   (1) Give general summary in short introductory paragraph or sentence.
   (2) Give complete procedure.
      (a) Apparatus and materials needed.
      (b) Detailed account of the preparation of solutions.
      (c) Give exact procedure.
      (d) Be sure to include calculations or method used in evaluating data.
      (e) Include sources of error, precautions, and the author's conclusions.
      (f) If reference to another technic is given, try to locate that that technic for a companion abstract. The people without libraries can not use the reference; it must be provided as a part of this service.

4. Verify reference and all numbers, names of chemicals and their abbreviations if used before sending abstract to editor.

5. Give your name and address at the end of your abstract—the editors wish to give you credit.

The outline seems bulky; nevertheless it must be remembered that unless the abstract is inclusive, it is worthless to those who do not have access to the medical literature.

—C. Becton, Abstract and Book Review Editor.

ABSTRACTS

EVALUATION OF SPINAL FLUID EXAMINATIONS. By Bernhard Dattner, M.D. Special Consultant, Rapid Treatment Center, Bellevue Hospital, New York City. Jour Ven Dis Information 29, 63 (March) 1948.

Spinal fluid findings are tremendously important in the diagnosis and management of neurosyphilis.

At Bellevue Hospital methyl violet and glacial acetic acid are used as the diluent for spinal fluid counts. More than 3 cells per c millimeter are considered abnormal. In the early stages of neurosyphilis high counts may be found. This author states: "It is generally accepted that with the arrest of the syphilitic process the abnormal cell count returns to normal—therefore, the utmost care should be exercised to obtain a correct count.

Total protein estimations made with an electrophotometric apparatus using a selenium cell measures turbidity with a high degree of exactness. A standard solution of protein checked by the micro-Kjeldahl gravimetric method is required for the standardization of the electrophotometric method.

Dr. Lange has a new colloidal gold test (Arch Neurol and Psychiat 53;116-124, 1945) which gives constant and reproducible color changes.

Lastly, complement fixation with the new cadiolipin antigen and the quantitative determination of the amount of reagin present are definite improvements.

The author considers the cell count, amount of protein, the new colloidal gold test, and complement fixations tests as obligatory and which must be interpreted as a whole.

BACTERIAL FILTRATES AND AUTOGENOUS VACCINES IN THE TREATMENT OF CHRONIC SINUS DISEASE AND OTHER CHRONIC RESPIRATORY AFFECTIONS. By Hugh M. Kinghorn, M.D., George E. Wilson, M.D., and Morris Dworski, B.S., Saranac Lake, New York. New York State Med. Jour. 49;41 (Jan. 1) 1949.

These authors treat chronic sinus disease, chronic nasal catarrh, general pulmonary conditions, bronchiectasis, and allergic bronchitis with a bacterial filtrate and an autogenous vaccine. Their methods for the preparation of the filtrate and vaccine are practically verbatim.

"Sterile wide mouth flasks are used for the collection of sputum."—The patient is instructed to have the teeth and mouth as clean as possible. Before expectorating the mouth is rinsed with sterile water. The sputum should be coughed up from the bronchial tree. Morning specimens are preferable; the second or third expectoration is usually freer of contamination than the first. Sputum samples must be sent to the laboratory immediately; unless they can be examined at once they are placed in an ice-chest.

Smears should be made at the bedside for spirochetes.

A small amount of a selected portion of sputum is placed in a Petri dish and washed in 4-6 changes of sterile 0.85% sodium chloride. The washed particles are streaked on blood agar plates and on Saborauds agar; portions are cultured in dextrose broth and in thioglycollate broth for anerobes.

Smears are prepared for Ziehl-Neelsen, Gram, and Fontana stains, and a hanging drop preparation in 20% KOH made for mycotic organisms.

"To obtain the discharges from the sinuses and postnasal spaces, the help of a laryngologist is often necessary. The discharges are collected on sterile swabs . . ." The material is examined exactly like sputum except that washing in salt solution is omitted.

Cultures are examined at the end of 24 and 48 hours. The organisms are subcultured and identified. Usually all of the organisms are included in the vaccine.

The filtrate and vaccine are prepared as follows:

"1. The isolated organisms in pure culture are grown separately in dextrose broth flasks for 48 hours at 37° C.

"2. The growth is then centrifuged for 30 minutes at 3000 rpm.

"3. The supernatant fluids of all cultures are mixed and poured into flasks and saved for the preparation of sterile bacterial filtrate.

"4. Each bacterial sediment is suspended in salt solution (0.85%) and poured into separate test tubes containing glass beads. The tubes are sealed and shaken by a machine until an even suspension is obtained.

"5. The shaken suspension is filtered through a cotton filter to remove any clumps.

"6. The number of organisms in each separate suspension are counted in the hemocytometer (a Hauser-Petroff counting chamber) and usually diluted so that each cubic milliliter contains 40 billion organisms. From these concentrated suspensions, further dilutions are made, and the various organisms are now mixed.

"7. The bottles are sealed and heated at 56° C. for 1 hour.
"8. Sterility tests are made by adding suspension to dextrose infusion broth and incubating for 48 hours at 37° C.
"9. Finally, phenol is added to make a 0.5% solution."

Bacterial Filtrate:

"1. The supernatant fluids of all cultures are mixed and are sterilized by passing through a Seitz bacterial filter.
"2. Sterility tests are made by incubating the filtered broths for 72 hours.
"3. If sterile, phenol is added to make a 0.5% solution as a preservative."

DEMONSTRATION OF SENSITIVENESS:

"To determine whether the patient is sensitive to the vaccine and bacterial filtrate solutions thus prepared, 0.05 cc of vaccine dilution containing 200 million organisms are injected intracutaneously into the forearms—vaccine into the right arm, and the bacterial filtrate solution into the left."

Observation for a reaction is made at 5, 10, and 15 minutes and again at the end of 24 hours. These authors state: "If there is no wheal or erythema at any time following the test, the patient is probably not sensitive to this particular vaccine or bacterial filtrate solution, and the vaccine and bacterial filtrate solution will probably be of no value in treatment."

BOOK REVIEW

PRACTICAL METHODS IN BIOCHEMISTRY. By Frederick C. Koch, Professor Emeritus of Chemistry, The University of Chicago, Director of Biochemical Research Armour & Co., and Martin E. Hanke, Assistant Professor of Biochemistry, The University of Chicago. 419 pages, 57 tables. Fifth Edition 1948. Baltimore. The Williams & Wilkins Company. $5.00.

This text is written as a laboratory manual primarily for medical students but its concise and direct approach to biochemistry make it a most worth-while addition to any laboratory doing clinical chemistry.

The book is divided into three parts. Chemistry of cell constituents, digestive tract, blood, and urine are included. Among the highlights are the many chemical equations demonstrating what happens chemically, the theoretical and practical aspects of hydrogen activity and pH, including explanations of the modern instruments in present day usage, newer manometric methods, microbiological methods for vitamins and amino acids and, new and/or visual colorimetric and fluorometric methods.

References are cited throughout the text; the appendix is a mass of practical information. Excellent cleaning suggestions are given as well as instructions for using pipettes, burettes, general information on the use of colorimeters (visual and photoelectric) and illustrations of some of the more complicated laboratory set-ups. The table of international weights, four place logarithm tables, rules governing the standardization of reagents—including oxidation and reduction. Also complete instructions for the preparation of reagents and solutions necessary for the tests described in this text are given. These solutions are alphabetically listed, thus making ready reference possible. The information contained in the appendix is worth the price of the book.

MEMO TO YOU, A MEMBER OF THE AMERICAN SOCIETY OF MEDICAL TECHNOLOGISTS

The most outstanding privilege you have, as a member of the A.S.M.T., is that of attending the national convention each year. Unless you have attended an annual meeting it would be difficult to visualize all that takes place in the three to five days allotted. One of the most enjoyable features of each convention is the opportunity afforded to meet medical technologists from various localities, other technologists whose problems are the same as yours, or who have found a solution to that same type of problem. There is the opportunity afforded to hear papers presented by those who speak authoritatively upon many different phases of medical technology; to see exhibits of material which may improve some of your own technics; to see new equipment and to see it demonstrated. Every effort is made by the many committees to present features which will help YOU advance in your chosen profession.

THE AMERICAN JOURNAL OF MEDICAL TECHNOLOGY is offered you as a second privilege through membership in the A.S.M.T. Through its pages, those who are unable to attend the annual conventions may read the papers which were presented there. Through its pages you are given a picture of the activities of those persons who attended the Meeting of the House of Delegates, the Advisory Council, the Board of Directors, and of the many committees. These activities provide many interesting outlets. There is enough work so that every medical technologist can find some phase of non-technical activity in his own local, state, or national society. Each of you has an opportunity to contribute your ideas toward the advancement of medical technology.

In this issue of the journal each of you will have a preview of the agenda which will come before the next annual convention. Read the committee reports. See that the material presented therein is discussed at your local and state meetings. See that YOU know what problems are confronting medical technologists; that YOU understand what amendments are being presented for the Constitution and By-Laws at this time—read these carefully and understand what effect each will have upon you as a professional person, and upon your profession. Look upon them from the standpoint of a group seeking NATIONAL recognition. Study carefully the recommendations which will be presented by your Board of Directors. Those matters were discussed thoroughly at a special meeting held in Oklahoma City—many of your Board members traveled long distances for a very short time in order that these problems might be considered more fairly and in greater detail than is possible by mail.

The American Society of Medical Technologists is YOUR organization. The problems of medical technology are YOUR problems. The solution of those problems is YOUR responsibility. YOU, as a delegate, or YOUR delegate who represents YOU, will be the one to guide the national society during the next fiscal year. We hope that YOU will be in Roanoke with all the answers.—R. M.

BOARD OF DIRECTORS—INTERIM MEETING
Hotel Skirvin, Oklahoma City, Oklahoma
Dec. 31, 1948 - Jan. 1, 1949

A quorum of the Board of Directors of the A.S.M.T., together with the Executive Secretary, the Chairman of the Constitution and By-Laws Committee, and a member of the Finance Committee who is also a member of the Advisory Committee of Medical Technologists to the Board of Registry, met for an interim session in Oklahoma City on the New Year week-end.

The first meeting, on New Year's Eve, was given over to the problems of the Executive Office. Through the co-operation of the Registry Office which sent out questionnaire cards with all their renewals, we were able to reach many more prospective members of A.S.M.T. Those people who were not already members of the national society will be contacted through the Executive Office which will, in turn, send lists to state Membership Chairmen, Presidents, and Secretaries, who will have the responsibility of "following through." The Executive Office was authorized to accept memberships from the unorganized states. In other cases where membership is applied for through channels other than state societies, and where old members pay dues through a state society other than that of their residence (where a transfer is not specified), the Executive Office is authorized to request an explanation and to call the attention of those so doing to the clause in the Constitution which deals with the transfer of members. Transfer members in good standing should not be required to pay further dues until the new fiscal year. Those persons who have not paid their 1948-49 dues received their January issue of the journal, together with a notice to the effect that this would be their last copy until they pay all delinquent dues, together with the reinstatement fee of $1.00. If they have already paid dues to their state treasurers, they should notify the Executive Office. The state treasurer should be careful to make their remittances promptly to the Executive Office. The office was instructed to send lists of the new registrants (as so n as these are received from the Registry) to the secretaries of the respective organized state societies. New members accepted between January 1 and June 30 will pay half-year dues. Old members (who have not already paid 1948-49 dues) will

pay their FULL YEAR DUES PLUS THE $1.00 REINSTATEMENT FEE. The printing of the Roster, which was to have been started by January 1, has been delayed until April 1, 1949, and will therefore contain the names of all members in good standing at that date. It was also decided that as a matter of policy, state societies should not use the A.S.M.T. emblem on their letterheads, but should designate the fact of their affiliation by a statement to that effect.

New Year's Day, 1949, was spent in session, from 10:00 A.M. until 10:00 P.M., with two brief recesses. Among matters discussed was that the Legislation Committee should have in the journal a clarification of their position and duties. (See page 99). Following a discussion of the separate spheres of interest of the A.S.M.T., the Board of Registry, and the Council on Education of the A.M.A., in the matters regarding professional problems of training and employment of medical technologists, it was voted that the Board of Directors go on record as stating *that the A.S.M.T. will not assume responsibility for statements by individuals or associated groups in local or state publications in writing or otherwise, purporting to be the opinion of A.S.M.T., unless those views have been officially accepted by the House of Delegates of the national society.*

Matters presented to the Board by the Chairman of the Constitution Committee appear on page 100 of this issue of the journal, as the report of the committee. Mr. Soucy was also authorized to clarify to the state societies wherein it is not feasible for any state society to have a constitution and by-laws which do not comply with those of the national organization, and to suggest to the state societies that they review their constitutions and by-laws for compliance with those of A.S.M.T., and to revise them if necessary. Mr. Soucy was commended by the Board for the way in which he has handled the duties of Chairman of this committee.

The Finance Committee was instructed to set up additional funds for the expenses of the A.S.M.T. exhibit for the remainder of the fiscal year. The awards for the papers to be presented before the annual convention at Roanoke, Virginia, in June, 1949, were set at $50, $35, and $15; and the awards for individual and state exhibits at $35 each. Each award will be accompanied by a scroll. The Executive Office is to be allowed an additional $75 per month for the remainder of the fiscal year for stenographic assistance.

It was voted that the attention of the membership be called to the fact that the terms of office of the Editor of the Journal and of the Executive Secretary expire at the end of the present fiscal year. This led to the discussion of the feasibility of establishing a full-time Executive Office, with the possibility of combining

the offices of Editor and Executive Secretary. The matter was referred to the Finance Committee for a study of the expenses which would be incurred by this move, with a request for recommendations from a financial standpoint. Applications for the positions will be accepted by the Chairman of the Board of Directors.

The Board voted to recommend to the House of Delegates in Roanoke that the invitation of the Texas Society of Medical Technologists to convene in Houston, Texas, in June, 1950, be accepted; and that hereafter the invitations to convene be extended at least two years in advance. Those cities hoping to entertain the national society in 1951 should be prepared to extend their invitations at this 1949 annual meeting.

As many of these points will be on the agenda of the meeting of the House of Delegates in Roanoke this coming June, it is suggested that each state organization consider them carefully in their own business sessions so that the votes of the delegates will express the wishes of the membership as a whole.

WE HESITATE TO LEGISLATE

"My wife doesn't understand me" is an old familiar refrain; even its users these days intend more humor than truth. So your Committee on Legislation, when it parodies the tritism to "Our members don't understand us" realizes that it speaks only a modicum of truth. Many of you do understand our excuse for being, as well as our activities, and this piece is only for those who are a trifle confused as to our attitude.

All of you know that the House of Delegates, a few years ago, went on record as opposing state licensure for technologists. Many of you know that the Committee on Legislation was instructed by the House of Delegates last year to prepare a "model" bill for the state licensure of technologists. The House did not go on record as either favoring or opposing state licensure. Since, when viewed objectively, these actions seem paradoxical and contradictory, we want you to realize the reasons behind them.

A few states have had a bill for state licensure of technologists presented to their state legislatures by persons not affiliated with A.S.M.T. or with the Board of Registry of the A.S.C.P. When such action was discovered by members of our Society and the bills in question were studied, it became apparent that the bills were intended to give the control of our profession into the hands of persons not qualified by our standards to practice technology. Such bills have been defeated with the help of the pathologists and medical associations in those states. In at least one state, however, the defeat was accomplished by so slender a

margin that our members and the pathologists determined to avoid any further such narrow escapes. If licensure were to be instituted in their state, they wanted a law which would be fair to everyone concerned. They brought their problem to the 1948 Convention of A.S.M.T.

Since the group which so nearly succeeded in legally depriving technologists in one state of the right to suffix M.T. (ASCP) to their names, is organized in many other states, it is reasonable to suppose that they would attempt to pass legislation in other states. The threat of such action is obvious and odious. In order to assure our members that A.S.M.T. will do everything possible to avoid having its members so oppressed, the Committee on Legislation was given the task of drawing a "model" bill which would govern with equity all persons pursuing the practice of medical technology. This bill is intended as a measure of counter-legislation, a weapon of self-defense, to be used by our members in states so threatened by unjust legislation that they feel that licensure will be inevitably instituted. If a law licensing our profession is to be passed in any of our 48 states, we are determined that it shall be a just one. Copies of the "model" bill have been sent to members in all states to be tailored to fit the legal as well as the professional laws of each state, thus to be held in readiness for the emergency if it arises.

The judgment of the necessity for licensure in any state must be made by the technologists and pathologists in that state; A.S.M.T. cannot dictate the proper decision, but we want to be able to advise and assist in any state where such action is contemplated. There are sound arguments on both sides of the question, and individual opinions vary as to the advisability of licensure. It is a matter to be considered seriously and weighed carefully. We only want to help you look before you leap.

VERNAL JOHNSON, M. T. (ASCP),
Chairman, Committee on Legislation.

REPORT OF THE CONSTITUTION AND BY-LAWS COMMITTEE

Upon examining the proposed amendments to the Constitution and By-Laws which appear below, you will note that many of these will affect us as medical technologists more than most of our previous amendments. Every member of the society should consider each of these very carefully, and every state society should send its delegates to Roanoke fully prepared to discuss them.

The principal aim of the proposals is to create a stronger national society through greater unity of the state societies, although in some instances it may appear that certain state rights will be relinquished. It should be borne in mind, however, that

such a stronger A.S.M.T. will eventually make each State Society that much more effective. No state society is as yet sufficiently organized nor of such scope to benefit the individual technologist to a great degree. It is only through a strong national organization that the majority of us can hope for full professional recognition, no matter where we may reside or be employed. If state societies do not fully support the national organization and abide by its rules, we shall remain as we are: loosely organized and unrecognized. The lack of uniformity in membership requirements in the state societies undoubtedly contributes greatly to the lack of recognition of the profession of Medical Technology. We need a stronger national body to gain the full status of a profession.

Since the first step to national strength is uniformity of membership requirements, we felt that these, as well as the relationship of the state societies to the national society should be more clearly binding. Some state societies affiliated with the A.S.M.T. have taken the privilege of disregarding the national requirements, and making their rules to fit those of a local group. If we are to foster a national society, we must abide by the national rules, and those of the local or state group will necessarily be secondary and not in conflict with those of the larger organization.

Eact state society is asked to consider these proposals with great care, and to think of the points which will be of greatest benefit to the largest numbers.

UNITED WE STAND; DIVIDED WE FALL.

The Constitution and By-Laws Committee has received the following proposals to amend the Constitution:

(Proposals must be considered in the order given below.)

Article VIII, Section I. (b)—To strike out the present words and insert: "Associate* members who shall hold a certificate from and be in good standing with the Board of Registry of the American Society of Clinical Pathologists at an educational level lower than that required for the certificate of the M.T. (ASCP)."

If the above is approved, to (1) strike out the word "two" and insert "three" in the first paragraph of Section 1; (2) to label the present sub-section (b) as (c); (3) to insert, after the word "Pathologist," Section 1, (a), "except those hereinafter described as Associate* members.

Article VIII would then read as follows:

MEMBERSHIP

Section 1. The membership of this Society shall consist of three general classes.

(a) Active members who shall be members in good standing of a subordinate Medical Technologists' Society of a state, or District of Columbia, or territory of the United States, or of a foreign nation and which Society holds a charter from this Society and is itself in good standing. All members of this Society who do not become members of such subordinate Society of the place of their residence or employment within one year after the adoption of the amendment of these Articles of Incorporation shall forfeit their membership in this Society, unless the Board of Directors rules in individual cases that circumstances justify extending membership to an individual without requiring that he become a member of the subordinate Society of his place of residence or employment. Only persons who are of good moral character and either (1) hold a certificate from and are in good standing with the Board of Registry of Medical Technologists of the American Society of Clinical Pathologists, except those hereinafter described as Associate Members, or (2) possess a degree at least at a master's level from an accredited college in any one of the six major fields of Medical Technology, viz: biochemistry, bacteriology, parasitology, histology, hematology, and

*The term "associate" used above may be interchanged with others, such as "affiliate," "fellow," etc. It is for the House of Delegates to determine which would be most appropriate.

serology and have one year's experience in a clinical laboratory approved by any member of the American Society of Clinical Pathologists shall be eligible to be active members. Only active members shall be eligible to vote or hold office.

(b) Associate* members who shall hold a certificate from and be in good standing with the Board of Registry of the American Society of Clinical Pathologists at an educational level lower than that required for the certificate of M.T. (ASCP). They shall enjoy all the privileges of the Society except office-holding and voting.

(c) Honorary members who shall have distinguished themselves by research, or personal sacrifice in the cause of scientific investigation. They shall never exceed one percent of the active membership. Admission of honorary members shall be by recommendation of the Board of Directors. Honorary members shall be notified of their election by the Executive Secretary who shall also forward an engrossed certificate of their elections signed by the President and Recording Secretary. They shall enjoy all the privileges of the Society except office holding and voting.

It is suggested that the House of Delegates be asked to vote on acceptance of Article VIII as it appears above, since the acceptance of one proposal seems to require acceptance of all.

Article XI, Section 4—To insert "d" and the following: "For accepting Active or Associate* members who do not meet the requirements of this Society."

Article XIII, Section 2—To strike out the word "two-thirds" on line 4 and insert the word "majority."

To strike out "majority" on line 8 and insert "two-thirds."

The present wording gives the Board of Directors too much power in some respects. It affords a very small minority opportunity to block and keep from the membership proposals which may be desired by a majority. Reversal of the fraction votes would follow the form given in Roberts Rules of Order.

Article XII—To insert "The By-Laws may also be amended by a two-thirds majority of the Board of Directors when circumstances require immediate action. The Board shall not be empowered to pass any amendment which has previously been proposed and disapproved by the House of Delegates. Any amendment passed by the Board shall be presented for vote to the House of Delegates next in session after its enactment. Voting on such amendments shall precede unfinished business and follow the Report of the Board of Directors. If a Board amendment is not approved by a majority vote of the members of the House of Delegates it shall immediately be nullified."

Article XIII—To apply the same proposal to the Constitution.

PROPOSALS TO AMEND THE BY-LAWS

Article I

Section 3—To insert "h" and the following: "See that the requirements for Active and Associate* members agree with the membership requirements of this Society."

Article II

Sections 1 and 2—To insert after the word "active" the words "and associate*."

To insert at the end of this section "unless the records of the Executive Secretary of this Society indicate that such members are not eligible, and the subordinate Society does not furnish proof of their eligibility."

Section 3—To strike out the words "provided he meets the requirements for membership in the new subordinate Society."

Article III

To insert the words "and associate*" where the word "active" appears in Sections 1, 2 and 3.

Article IV

To insert the following:

CODE OF ETHICS

Section I. Nothing in this Code of Ethics shall be inconsistent with that of the American Society of Clinical Pathologists and that of the American Medical Association.

Section II. I will at all times work only under the direction and supervision of a pathologist or duly qualified doctor of medicine or specialist in one of the divisions of clinical pathology, such qualifications being determined on the basis of accepted medical ethics.

Section III. I will make no diagnoses or interpretations other than those in the reports prepared by me.

Section IV. I will not advise physicians or others how to treat disease.

Section V. I will not accept work outside the practice of my employer.

Section VI. I will not train students without supervision of a clinical pathologist.

Section VII. I will not engage in laboratory work independent of qualified supervision (as provided in Section II), nor will I operate an independent laboratory.

Section VIII. It is ethical to perform laboratory work on a commission basis under contract with a public health, research, or clinical laboratory when such work is done as provided in Section II above and when all contractural agreements are approved and signed by the director of the organization contracting for such services.

Article V

Section 12—The Board of Directors is considering hiring a full time Executive Secretary, but an amendment to this section does not seem necessary.

Article VI

Section 1—To insert the word "active" after the number "25" and the words "number of."

Article IX
Section 11—To strike out the words "which shall be replaced by an American Board of Medical Technology immediately after the inception of such a Board."
Article XII
Section 1—To strike out the words "preceding meeting of the" and insert at the end of this section the words "at least two years in advance."
Section 4—To strike out the words "Board of Directors" appearing at the end of this section and insert the words "Editorial Board."
Article XIII
Section 4—To be made to read as follows: "The Editorial Board shall consist of the Editor, two Advisory Editors, and at least two Associate Editors. The advisory and associate editors shall be selected and appointed annually by the Editor with the approval of the Board of Directors."

The Constitution and By-Laws Committee invites comment from individual members, as well as from state or local groups. Try to consider each point from the standpoint of a large group as well as that of a small one. Look at each article with an open mind. Ask yourself how it will affect **you**, how it will affect your local group, your state society, and finally, all medical technologists who are working together in A.S.M.T.

At least a part of these views and comments will be published in the May issue of the A.J.M.T. or will be presented to the House of Delegates. Air your views—you may help to clarify the thinking of someone else.

L. B. Soucy, Chairman
204 S. E. Fifth St., Plainview, Texas
Kathleen Knippel
Allyne Lawless
Sylvia Anderson
Elwyn Scott

REPORT OF THE COMMITTEE ON NOMINATIONS AND ELECTIONS

The following members of the American Society of Medical Technologists will be presented for the vote of the House of Delegates at its annual session on June 22, 1949, in Roanoke, Virginia:

For President-elect (one to be elected)

MISS VERNAL JOHNSON,
Oklahoma City, Okla.
- Member A.S.M.T. since 1945
- Secretary A.S.M.T. 1948-49
- Member Legislation Committee 1947-49. Chairman, 1948-49.
- President Oklahoma City S.M.T. 1945-46
- President Oklahoma S.M.T. 1946-47
- Convention Chairman 1946 and 1949, O.S.M.T.
- Chairman of the State Technologists' Division in fund drive for Research Foundation in Oklahoma, 1948-49, second professional group to go over their quota
- Paper on Rh-antibodies — second award in state contest 1947
- Paper on Serum Phosphatases read at O.S.M.T. convention 1948

MISS LUCILE HARRIS,
Abilene, Texas
- Member A.S.M.T. since 1946
- Member Education Committee 1946-48
- Member T.S.M.T. since 1940
- President-elect 1947-48, T.S.M.T.
- President 1948-49, T.S.M.T.
- Board of Directors 1940-1947, T.S.M.T.
- Chairman State Paper-Writing Contest, 1947
- Assisted Membership Committee in organizing district societies, 1947-49
- Organized Taylor County District S.M.T. and served as temporary chairman until quarterly meeting
- Delegate to A.S.M.T. Conven- 1946, 1947, and 1948
- Advisory Council member, 1948

For Secretary (one to be elected)

SR. CHARLES MIRIAM (STRASSELL),
Albuquerque, N. M.
- Member A.S.M.T. since 1947
- Delegate A.S.M.T. Convention 1948
- Member Advisory Council 1947-49
- President New Mexico S.M.T. 1948-49
- Presented paper at New Mexico Seminar 1948
- Presented paper at annual convention of New Mexico State Nurses' Association on the Rh Factor

SR. EUGENE MARIE (CARPE)
Cincinnati, Ohio
- Member A.S.M.T. since 1940
- Vice President Ohio S.M.T. 1947-48
- President Ohio S.M.T. 1948-49
- Member Advisory Council 1948-49
- Member Awards Committee 1949 Convention
- Presented paper on "The Rh Factor in Blood and Related Conditions" A.S.M.T. Convention, 1945. Published A.J.M.T., Vol. 12, No. 1, Jan., 1946
- Presented paper on "Case Report on the Exchange Transfusion in Severe Erythroblastosis" A.S.M.T. Convention 1947, published A.J.M.T., Vol. 14, No. 1, Jan., 1948
- Member Advisory Committee to Ohio Department of Health since 1945

For Board of Directors (two to be elected)

MISS ANNE J. SOMMER,
St. Louis, Missouri
- Member A.S.M.T. since 1945
- Member Advisory Council 1948-49
- Delegate A.S.M.T. Convention 1948
- Active in organization of Missouri S. M. T.
- President M.S.M.T. 1948-49

MISS DORIS BOON,
Charleston, West Virginia
- Member A.S.M.T. since 1945
- Member Advisory Council 1947-48
- Delegate A.S.M.T. Convention 1946-48
- Active in organization of West Virginia S.M.T.
- President W.V.S.M.T. 1947-48
- Member Standards and Studies Committee A.S.M.T. 1947-49
- Chairman Scientific Exhibits Committee A.S.M.T. 1949

MRS. NELL BUTLER,
Birmingham, Alabama
- Member A.S.M.T. since 1944
- Delegate A.S.M.T. Convention 1945
- Chairman Awards Committee A.S.M.T. 1949
- Alabama S.M.T. Treasurer 1939-40
- District S.M.T. President 1941-42
- Chairman Entertainment Committee Alabama S.M.T. 1944
- Vice President Alabama S.M.T. 1946-47
- Member Alabama S.M.T. Executive Committee 1942-49
- Member Alabama S.M.T. Board of Directors 1949
- Chairman Entertainment Committee for State Convention 1947

MISS GRACE BALLARD,
Milwaukee, Wisconsin
- Member A.S.M.T. since 1941
- Chairman Scientific Exhibits Committee A.S.M.T. 1946
- Chairman Nominating Committee A.S.M.T. 1946-47
- Chairman Awards Committee A.S.M.T. 1947-48
- Member Registration Committee for 1949 Convention
- Chairman Convention Committee Wisconsin A.M.T. 1939
- Chairman Education Committee W.A.M.T. 1939-41
- Treasurer W.A.M.T. 1941-44
- Chairman W.A.M.T. Membership Committee 1946-48
- President-elect W.A.M.T. 1947-48

Paper presented at 1948 A.S.M.T. Convention won second award, published A.J.M.T., Vol. 14, No. 5, Sept., 1948

President W.A.M.T. 1948-49
Member Advisory Council A.S.M.T. 1949

Respectfully submitted,
Henrietta Lyle, Chairman
Gladys Jacobs
Eunice Reinhardt
Clara Kruse
Hazel Current
Frieda Claussen

EDUCATION COMMITTEE REPORT

The Education Committee wishes to report the status of its various projects:

1. Miss Rose Hackman, 4200 East 9th Ave., Denver 7, Colorado, has prepared a list of available material which can be used by local and state societies at their meetings. The president of your state society has probably received a copy by this time. Feel free to make suggestions so that we may supply your needs. Constant efforts are being made to add other facilities.

2. Miss Mary Frances James, Medical College of Alabama, Birmingham 5, Alabama, has enlarged our collection of haematology slides. Lantern slides are being prepared; and a brochure, using the new nomenclature, is being composed to accompany the sets. We hope soon to be able to release the first set. If interested in booking a "loan set," please drop us a card.

3. Miss Ruth Feucht, 1142 East 55th St., Chicago, Illinois, coordinator of Vocational Guidance, is outlining an extensive program. Contacts are being made through your state committees on recruitment and vocational guidance. We hope to have your wholehearted cooperation in this project.

4. Miss Ruth Pottner, University of Utah, Salt Lake City, Utah, is trying to instigate more "refresher" courses for medical technologists, in Haematology or in Papanicolaou Technic. Anyone knowing of possibilities will please notify her of them.

5. Miss Estelle Downer, 2737 N. Booth St., Milwaukee, Wisconsin, in accordance with the request of Dr. L. G. Montgomery, has been appointed to take charge of the funds set aside by the Board of Registry for the use of the Education Committee of the A.S.M.T. These funds are to be used for seminars. Applications may be made direct to Miss Downer for these funds. She, too, is helping to increase our supply of teaching material by collecting and preparing parasitology slides. (See page 107.)

6. The contest sponsored by the Will Corporation and the Denver Chemical Manufacturing Co., Inc., has had a number of participants. The name of the winner will be announced in the May issue of the journal. Presentation of the award will be made at the annual meeting in June.

7. Other projects, such as a Bureau of Educational Informa-

tion, a library of 16 mm. films of various technics are still in the making.

Sr. M. Antonia, MT (ASCP)
Chairman, Education Committee

STOP LOOK READ

FELLOW TECHNOLOGISTS

If it is help you need:

1. In planning your monthly program
2. In obtaining material for your monthly program
3. In securing films or short educational features to keep abreast with this fast progressing field
4. In solving a technical problem

write your Education Committee. We don't promise the impossible, but we will try to find the answer if one is to be found.

WATCH THIS SPACE EACH MONTH

(If interested, note it—If not, forget it)

HEPATOGRAM

SUMMARY OF FUNCTIONS OF THE LIVER*

Functions	Metabolism	Laboratory Tests
	(1) Excretion and metabolism of the porphyrins	
	(2) Involved in phosphatase activity	
	(3) Detoxification and conjugation of various toxic substances (indol and other substances absorbed from the intestinal tract, drugs, etc.).	Urinary Porphyrin Phosphatase
Additional Functions	(4) Important storehouse of iron	Hippuric Acid Synthesis } Oral and I. V.
	(5) Stores the antianemic principle involved in the production of erythrocytes	B. S. P. Vitamin K Tolerance
	(6) Stores the fat-soluble vitamins A, D and K	
	(7) Serves as a reservoir for venous blood	
	(8) Intimately concerned in the elimination of certain dyes	

* Kolmer, John A., CLINICAL DIAGNOSIS BY LABORATORY EXAMINATIONS. First Edition—Revised D. Appleton—Century Company, 1944.

VOCATIONAL GUIDANCE AND RECRUITMENT

Miss Ruth Feucht, Coordinator of Vocational Guidance and Recruitment, has mailed a list of suggestions for this type of work and an outline of Career Day talks for medical technology to the presidents of the state societies. This material is also available upon request to the chairmen of the committees for recruiting medical technologists. Suggestions for this work and reports of what YOU are doing should be made to:

Miss Ruth Feucht, MT (ASCP)
1142 East 55 Street, Chicago 15, Illinois.

EDUCATIONAL FUND

At the meeting of the Board of Registry in Chicago in October, 1948, a sum of $750.00 was assigned for seminar funds that may be used by groups of Medical Technologists. It is hoped that Medical Technologists will take advantage of this splendid opportunity to further their professional training. Several state groups may form a seminar group. This arrangement would make it possible for more technologists to participate in the benefits of a seminar.

We are submitting a form which is to be used in applying for the seminar fund. This form must be complete before funds will be allocated. The completed form will be sent to the Chairman of the Board of Registry, Dr. L. G. Montgomery. The money will be granted from the Board of Registry office.

APPLICATION FORM

Name of Organization (If several states form a seminar name each):
Place of meeting:
Date:
Number of technologists expected:
Guest speakers (state traveling distance) and approximate expenses:
Charges for rented equipment (Films, projectors, meeting places, etc.):
Other expenses:
The submission of a tentative program will aid greatly in determining the amount of money to be allocated.

After a Seminar, certain information will be greatly appreciated. The Committee requests that a final form be submitted by the applicants for the seminar fund.

FINAL FORM

I. Give number of Technologists attending meeting.
   1. Number of Registered (ASCP) Technologists:
   2. Number of Non-registered Technologists:
   3. Number of Medical Technologists who are members of the American Society of Medical Technologists:
II. Give number of Pathologists attending meeting
III. Submit three copies of the program
IV. What type of program was best suited to the needs of those attending
V. Give brief summary of the value of the meeting.

Both the application form and the final form should be mailed to:

Estelle Downer
2737 North Booth Street
Milwaukee 12, Wisconsin

THE AWARDS COMMITTEE

Mrs. Nell Butler, 2219 Highland Ave., Birmingham, Alabama, Chairman.
Dr. F. W. Sunderman, Cleveland Clinic, Cleveland, Ohio.
Sister Eugene Marie Carpe, Good Samaritan Hospital, Cincinnati, Ohio.
Dr. William Riser, University of Alabama Medical School, Birmingham, Alabama.
Miss Eleanor Stackhouse, Abington Memorial Hospital, Abington, Pennsylvania.

SCIENTIFIC EXHIBITS COMMITTEE

Scientific exhibits are being planned by several states and individuals. Is *yours* among the number? It is necessary to have notice in advance about how much space will be required for this project. Perhaps you are just thinking about having an exhibit. How about writing to one of the members of the committee to that effect, even if you have to change plans later. This committee is proud of the members of A.S.M.T. for the interest shown to date and wishes more would take part in this phase of the 1949 convention. Share your ideas and accomplishments

with your fellow Medical Technologists.

Doris E. Boon, Chairman, Box 3149, Charleston, West Virginia.
Anna R. Wassell, 683½ West Lombard St., Baltimore 1, Maryland.
Kathleen Knipple, St. Margaret's Hospital, Montgomery 5, Alabama.
Constance Peterkin, 907 Short Ave., Fairmont, West Virginia.
Mrs. Daisy M. Winsheimer, 634 34th St., Newport News, Virginia.
Mrs. Bruce C. McIntyre, St. John, Washington.
Mary C. Wethington, 448 M.A.C., East Lansing, Michigan.

PROGRAM COMMITTEE 1949

The committee members are grateful for this opportunity to report on the plans under way by members and guests for the coming Annual Convention program.

The SPECIAL FEATURES represent your "choice" as indicated in the results of the poll returned to us by thirty-six state societies.

Among these will be: Dr. Edwin S. Gault, Associate Professor of Pathology and Bacteriology, Temple University Medical School, Philadelphia, Pa., who will cover the subject—the laboratory diagnosis of the more important intestinal parasites.

For medical mycology, we have acceptances of Dr. Donald S. Martin, Professor of Preventive Medicine and Public Health, Duke University School of Medicine, Durham, North Carolina, and Miss Charlotte C. Campbell, Bacteriologist, Army Medical Center, Washington, D. C. Dr. Martin, in his address, will emphasize the clinical side of the fungus infections and Miss Campbell, the technical aspect.

By invitation, Miss Charlotte Street of Cornell University Medical College, New York City, N. Y., will bring to our meeting the feature, cancer cytology, and will speak to us on the role of the medical technologist in preparing, staining, and screening smears in cancer diagnosis.

The Staff members of the Argonne National Laboratory are preparing a Symposium.

Dr. R. N. Harger, Professor of Biochemistry and Toxicology, Indiana University Medical Center, Indianapolis, Ind., will speak on suitable laboratory procedures for determining the level of body alcohol.

HEMATOLOGIC NOMENCLATURE is another Convention highlight with a report on the recommended terms and definitions.

From Georgetown University Medical Center, Washington, D. C., Dr. Murry M. Copeland, Professor of Oncology and Dr. Martin I. Rubin, Associate Professor of Clinical Chemistry, will participate in a panel discussion on Radioisotopes—General Considerations.

Dr. Ivan W. Brown, Jr., Director of Blood Bank and Associate in Surgery, Duke University Hospital and School of Medicine, Durham, North Carolina, whose address will probably deal with some aspects of blood grouping and Rh typing methods in

relation to blood transfusion.

A panel discussion on VOCATIONAL GUIDANCE—RECRUITMENT will be presented and for which Mrs. Ruth Drummond, Registrar, Registry of Medical Technologists, A.S.C.P., is the coordinator.

Dr. Linwood Keyser of Roanoke, Virginia, has kindly offered to contribute to our program with a report on some special biochemical studies. A discussion on Microscopic Technique With Special Reference to Phase Microscopy will be presented by Dr. Francis W. Porro of Roanoke. Once again we are looking forward with interest and pleasure in having Dr. Lall G. Montgomery, Chairman of the Board of Registry, report to us at Convention time.

All of these FEATURES in addition to others have been promised—one panel being on comparative studies of Protein methods and other worthwhile papers covering various studies and evaluations of techniques—new ones as well as others now in general use and these including the major fields of medical technology. Among the manuscripts received at this time and reporting on special studies are on the use of the Male Frog and Toad in Pregnancy Tests, Circulating Blood Volumes, a complete method for consistent Blood Staining, a method for determining the level (blood) of Darvisul (one of the sulfonamides), Rh-Hr, CDE-cde antigens and antibodies, and another of a method of making color print enlargements of kodachromes.

We deeply appreciate the generous response of the membership and believe the program participants will provide an outstanding and up-to-the-minute information concerning subjects of vital importance.

To those who have sent in manuscripts and those who intend to do so before the deadline, we thank you.

WATCH for the publication of the COMPLETE CONVENTION PROGRAM in the MAY issue of your JOURNAL.

PROGRAM COMMITTEE

Mary F. Eichman, Chairman, 440 Lyceum Avenue, Philadelphia 28, Pa.
Ruth Church, 201 S. Broom St., Wilmington, Del.
Joy Austin, 10 Oakhurst Circle, Charlotteville, Va.
Elizabeth Frey, 678 William St., Buffalo, N. Y.
Evelyn Ballou, 4105 Third St., N.W., Washington, D. C.

MISCELLANEOUS ANNOUNCEMENTS

The CANADIAN Society of Laboratory Technologists will hold their annual convention on May 20 and 21, 1949, in the Chateau Laurier, Ottawa, Ontario, Canada. Among the speakers will be Dr. L. P. Bouthilier, of the University of Montreal, on Radioactivity, and Dr. Desranleau, of the Quebec Department of Health, on Bacteriological Techniques.

The MISSISSIPPI Society of Medical Technologists will meet on May 6 and 7, 1949, at the Hotel Vicksburg, in Vicksburg. The convention will feature a tour of historic Vicksburg on May 6,

at 2:00 P.M. The business and scientific sessions start on May 7. An excellent program has been planned. All medical technologists residing in Mississippi are invited to attend.

The TEXAS Society of Medical Technologists convenes on April 15 and 16, 1949, in Fort Worth, Texas. Miss Dorothy Patras, Harris Memorial Hospital, Fort Worth, is general chairman. Dr. Emma Moss, Director of the Department of Pathology, Charity Hospital, of New Orleans, will be the featured speaker. Her subject will be mycology. Dr. Moss will also have an exhibit on "Etiological Agents of Mycotic Infections." Emphasis will be placed on the laboratory diagnosis of the medically important fungi.

The PENNSYLVANIA Society of Medical Technologists and Laboratory Technicians will hold its annual Seminar on April 23, 1949, at the Philadelphia Co. Medical Bldg., 21st and Spruce streets, Philadelphia.

These notices serve to invite medical technologists in the vicinity of any of the above places to attend the meeting whenever and wherever possible.

ARE YOU DISAPPOINTED

Because YOUR state society is not mentioned in this section of the journal? You shouldn't be. If *you*, the president of your organization, instructed the secretary to send the following information to reach THE AMERICAN JOURNAL OF MEDICAL TECHNOLOGY by the 10th of the month before this issue is dated, and *you*, the secretary, did not procrastinate, that information would be here. Send us the names **and addresses** of your new officers. Send us also the information as to the time and place of any of your future meetings, and let us know something about the meeting which is just past. (We cannot promise to print everything, due to lack of space, but we'll have the correct names and addresses of your officers and the notice of your next meeting, anyway.)

Deadline for journal copy:

for January, December 10;	for July, June 10;
for March, February 10;	for September, August 10;
for May, April 10;	for November, October 10.

Information requested:

1. Names and addresses of state society officers and membership chairmen.
2. Time and place of next meeting of state societies.
3. Brief report of last meeting.
4. Any other information about activities of your state society which might be of interest to other members of ASMT, and which might encourage someone else to want to belong to your organization.

We promise to include as much of the above as space permits in each subsequent issue of THE AMERICAN JOURNAL OF MEDICAL TECHNOLOGY.

ARMY SURGEON GENERAL ANNOUNCES COMMUNITY CAMPAIGN

A program to unite professional and civic support in every community behind a campaign to meet urgent manpower requirements of the Army Medical Department through volunteers was announced on January 6, 1949.

It involves setting up Professional Manpower Committees in communities and coordinating them with the existing Military Manpower Committees which are already helping the general recruiting campaign. The medical program is part of the drive to obtain physicians, dentists, nurses and other medical specialists in order to meet the needs for medical care of the services.

The Selective Service Act provides that "no person shall be inducted until adequate provision shall have been made for medical care." To date, the Medical Departments are meeting their obligation to provide adequate medical care to men coming into the service. But as the physicians and dentists now on duty finish their service and are separated, others must be obtained to replace them. This shortage of medical personnel, if it continues, is viewed as a serious threat to national defense. The new program is an effort to obtain enough volunteers to meet the need.

The program was worked out by the Army Medical Department in cooperation with the U. S. Army and U. S. Air Force Recruiting Service. In communities, outstanding physicians, surgeons, dentists and other leading medical specialists will be asked to serve on Professional Manpower Committees, which will be set up as sub-committees to the Military Manpower Committees which are already assisting the Recruiting Service. The cooperation of existing Army Advisory Committees also will be sought, particularly in the larger cities.

The plan for civilian aid to medical personnel procurement has been developed in consultation with the national societies representing the professional fields involved. It will seek the help of local units of professional organizations and enlist the cooperation of local chapters of many veteran, civic and fraternal groups which have been helping the services in their recruiting campaigns.

As a separate phase of this program, the Army Medical Department will maintain liaison with national professional societies and associations to coordinate procurement programs and national organization policy. National advertising and publicity will be used to focus public attention on achievements and opportunities in the Medical Departments of the services.

CORNELL UNIVERSITY MEDICAL COLLEGE

Course in Exfoliative Cytology for Laboratory Technicians

April 25—May 7, 1949

This course will be given under the supervision of George N. Papanicolaou, M.D., with the active cooperation of members of his staff. The purpose of the course is to familiarize technicians with the methods of preparing and staining smears of various body fluids and give them instruction in the principles of screening such smears. Applications will be considered only from qualified technicians employed by a Hospital or Laboratory where this technique is in use or is expected to be in use. Tuition $100.

Inquiries should be directed to Miss Charlotte M. Street, Cornell University Medical College, 1300 York Avenue, New York 21, N. Y. Application blanks will be furnished on request and must be returned by April 1, 1949.

Enrollment will be limited.

Take This Issue of the Journal to Roanoke

THE CHAIRMAN OF THE RESERVATIONS COMMITTEE WOULD HAVE A WORD WITH YOU

Mrs. Frances Henry Crouch tells about her first convention. If you have yet to attend a national meeting, why not try Roanoke, this coming June? Mrs. Crouch says:

I have enjoyed the many articles on the 1948 convention in St. Paul—but I wondered if some reader might not like to see the Convention with the eyes of a newcomer. I will bet you money that I saw more as a newcomer than many Conventionites. I traveled and roomed with an Officer—but I lost her in St. Paul to a million Board meetings and countless other duties.

I came to St. Paul on Sunday morning and within an hour was attending church services with three girls who had never seen me before.

Sunday dinner, practically a life-long institution with me, was lost somewhere, but we had a sandwich, and ran for the sightseeing buses. We toured the Twin Cities and a very lovely girl came to the front of the bus and showed us everything.

Back to the hotel for the reception Sunday evening. We had set up Virginia's exhibit at some time during the day, and I went at once to see if any one was interested in it. There were a good many interested. At that gorgeous reception I didn't meet a soul. I talked three hours without stopping.

Around midnight we fell into bed and put out the light. Instantly came a knock on the door. We were wanted down the hall. I put on my old faded robe, and my famous "roomie" looked

matter-of-factly in the mirror—she was up in pincurls—and we went. Into a roomful of people, including two men, all of them dressed and alert. I sat on the floor and nodded until a bomb exploded in my face; the Convention might come to Roanoke next year—NEXT YEAR!

Monday morning came the Grand Opening, when we saw with our own eyes the people whose names we see in newspapers and magazines. We were welcomed so cordially that I shall always feel that the Minnesota folks are my personal friends.

Afterward, we typed minutes of the Board meeting, to be read at the Advisory Council right after lunch. Lunch? Oh yes, I tagged along with the Colorado girls to a nearby lunch counter, and heard about their chartered bus trip to St. Paul, and about the 1947 Convention in Denver.

In the afternoon I proudly attended the Advisory Council. Then Bayport, and the White Pine Inn and Smorgasbord. I sat down at a table with Minnesota girls, including the State President, and learned the Swedish names for the wonderful food we were eating. Then the troupe of Scandinavian dancers—weren't they charming? And Dr. Ikeda. He said he was going to talk forty-five minutes and did, to the second. It seemed short. Going home we were a bit crowded, and I was standing up, so heard conversations going on below me, all around. Know what the girls were talking about, every single one?—medical technology!

Tuesday and the House of Delegates. And never a dull moment there, hearing reports from the important committees and voting for the new officers—and then the luncheon and lovely fashion show. Back to hear returns from the election, then to invite all those wonderful people to Roanoke and see them accept enthusiastically. What a day!

That evening I tagged along with the officers for supper in a cellar nearby—good, too—and those girls, with all they had to do, insisted on helping me to pack up Virginia's exhibit, carried it up to our room and later mailed it for me, so I would have more time for fun. I'll never know finer girls than they are.

Wednesday and Rochester, and a chat on the way with an attractive Ohio girl, also a newcomer. I meant to stay with her, too, but lost her. What can you do among five hundred people?

What a lunch we had that day, as guests of the Mayo Foundation. There was a formal banquet yet to come. I was at the table with Wisconsin girls. It was a fitting climax to our Convention—but I had to make a train.

Most of the way home I thought about all the fun I'd had, and the grand people I'd met. It was a privilege to be in St. Paul, and a pleasure. May we all met again in Roanoke, and continue the friendships that started in St. Paul.

TO TRAVEL BY RAIL TO ROANOKE

Schedules as provided by the Norfolk and Western Railway Co.

ATLANTA, GA., TO ROANOKE, VA.
Via Southern Railway to Lynchburg and N&W Railway

Lv. Atlanta, Ga., Via Sou. No. 40.....7:00 P.M.
Ar. Lynchburg, Va.....5:15 A.M.
Lv. Lynchburg, Va., Via N&W No. 9.....8:15 A.M.
Ar. Roanoke, Va.....9:30 A.M.

Southern No. 40—"The New Yorker"—carries through Pullman cars, Atlanta to Lynchburg, one 2-compartment Drawing Room, Buffet Lounge, also one 12-section, 1-Drawing Room type car.

N&W No. 9—coaches only Lynchburg to Roanoke.

BIRMINGHAM, ALA., TO ROANOKE, VA.
Via the route of Birmingham Special

Lv. Birmingham, Ala., Via Sou. No. 18.....3:30 P.M.
Ar. Bristol, Va.....2:10 A.M.
Lv. Bristol, Va., Via N&W No. 18.....2:20 A.M.
Ar. Roanoke, Va.....5:47 A.M.

Southern-N&W No. 18 carries through Pullman cars Birmington to Roanoke (one 8-Section, 5-Double Bedroom, also one 10-Section, 1-Compartment and two Double Bedrooms). Dining car Birmingham to Chattanooga, Chattanooga to Roanoke.

CHICAGO, ILL., TO ROANOKE, VA.
Via Cincinnati, Ohio, and N&W Railway

Lv. Chicago, Ill., Via PRR No. 208.....1:00 P.M.
Ar. Cincinnati, O.....8:35 P.M.
Lv. Cincinnati, O., Via N&W No. 4.....10:20 P.M.
Ar. Roanoke, Va.....10:00 A.M.

Through sleeping car service Chicago to Roanoke without change of cars (12-Section, 1-Drawing Room type sleeper—Cafe Coach and Coaches Chicago to Cincinnati. Pennsylvania Dining Car serving noon meal. N&W Dining Car serving breakfast.

Hotel Roanoke